



Game outline

Work package 3



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Acknowledgements

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TABLE OF CONTENTS

TABLE OF CONTENTS.....	4
GAME OUTLINE INITIAL GAME PROPOSAL - CLARITY QUEST: BEYOND THE FOG.....	5
1. INTRODUCTION	6
1.1. Importance of educational games.....	6
1.2. Purpose of ThinkTwice game	6
1.3. Objectives of the game.....	7
1.4. Target audience.....	8
2. GAME DESCRIPTION	11
2.1. Theme and narrative	11
2.2. Game structure	12
2.3. Visuals and style	13
3. STRUCTURE AND CONTENT.....	16
3.1. Levels.....	16
3.2. Topics covered.....	16
3.3. Question types	17
3.4. Assessment methods	17
4. TECHNOLOGY REQUIREMENTS	18
5. DEVELOPMENT TIMELINE	19
Partners	20

GAME OUTLINE

**Initial game proposal - Clarity Quest:
Beyond the Fog**



1. INTRODUCTION

1.1. Importance of educational games

Educational games play an important role in education across different age groups due to their ability to improve engagement, motivation and learning outcomes. A recently conducted meta-analysis showed the effectiveness of digital game-based learning (DGBL) in improving academic achievements, especially in STEM fields. Studies have demonstrated, for instance, that, in comparison to traditional educational approaches, DGBL may greatly improve students' scientific problem-solving abilities and creativity. Game design frequently acts as a mediator in this effect, assisting in cognitive processing and improving students' ability to absorb and remember information (Gui, Y., Cai, Z., Yang, Y. et al, 2023)¹.

In addition, it has been noted that including game mechanics like badges and points has a significant effect on students' academic performance and interest. These features of gamification create interactive and dynamic learning environments, appealing to students' motivation and encouraging a stronger commitment to the learning process. This has been particularly apparent in courses where traditional learning methods may be seen as difficult or repetitive, such as programming, where the use of gamification methods has led to improved competencies in problem-solving. (Smiderle, R., Rigo, S.J., Marques, L.B. et al., 2020)².

It can be stated that educational games play an important role in educational frameworks, effectively integrating fun with effective learning across various educational levels and disciplines. Educational games' adaptability makes them suitable for a wide range of learning environments, complementing established educational techniques by increasing engagement and involvement. This improvement is critical for adjusting to different educational environments and fulfilling the changing needs of students.

1.2. Purpose of ThinkTwice game

During the Work Package 3 - Think Outside the Box – Gamification of Media Literacy, the partners will create an educational game about media literacy. This game will serve as a teaching and learning tool for educators working with different age groups of learners. The educational game will be adapted to children aged 8-12, teens, and adults. The game will be based on UNESCO's "Think Critically, Click Wisely! Media and Information Literate Citizens" and the EC's Guidelines for Teachers and educators on tackling disinformation and promoting digital literacy through education and training. This game as the tool will be possible to implement in different phases of the

¹ <https://stemeducationjournal.springeropen.com/articles/10.1186/s40594-023-00424-9#Sec29>

² <https://slejournal.springeropen.com/articles/10.1186/s40561-019-0098-x#Sec1>

lesson - as an introduction to the topic, as revision, for a team/project assignment, for homework as part of a flipped classroom approach.

1.3. Objectives of the game

For children aged 8-12:

- Distinguish different types of false and misleading information, i.e. disinformation, misinformation, and mal-information including conspiracy theories/myths in terms of characteristics, motivations, etc.
- Illustrate case examples of common categories of false and misleading content found on different media platforms.
- Explain the qualities or characteristics that make social media the platforms of choice for disinformation in some context.
- Describe how trolling/clickbait operate, including in relation to disinformation.
- Prepare a simple work plan on how to address false and misleading content in a learning space setting.
- Illustrate how to conduct fact-checking and related techniques and tools to combat misinformation and disinformation.

For teens:

- Distinguish different types of false and misleading information, i.e. disinformation, misinformation, and mal-information including conspiracy theories/myths in terms of characteristics, motivations, etc.
- Illustrate case examples of common categories of false and misleading content found on different media platforms.
- Explain the qualities or characteristics that make social media the platforms of choice for disinformation in some context.
- Describe how trolling/clickbait operate, including in relation to disinformation.
- Prepare a simple work plan on how to address false and misleading content in a learning space setting.
- Analyse the impact of misinformation and disinformation on public trust of news media organizations.
- Illustrate how disinformation techniques have affected citizens' participation in governance including elections.
- Explain how various types of misinformation can affect the economy.
- Illustrate how to conduct fact-checking and related techniques and tools to combat misinformation and disinformation.
- Prepare an action programme/project to address misinformation.

For adults:

- Explain theories of truth.
- Analyse conditions that illustrate the post-truth era.
- Defend why truth-telling is the essence of journalism.
- Distinguish different types of false and misleading information, i.e. disinformation, misinformation, and mal-information including conspiracy theories/myths in terms of characteristics, motivations, etc.
- Illustrate case examples of common categories of false and misleading content found on different media platforms.
- Explain the qualities or characteristics that make social media the platforms of choice for disinformation in some context.
- Describe how trolling/clickbait operate, including in relation to disinformation.
- Evaluate existing mechanisms and the effectiveness of Internet intermediaries in addressing disinformation and hate.
- Prepare a simple work plan on how to address false and misleading content in a learning space setting.
- Analyse the impact of misinformation and disinformation on public trust of news media organizations.
- Elaborate how the 'disinfodemic' has affected health-seeking behaviour and practices especially of parents and young people.
- Illustrate how disinformation techniques have affected citizens' participation in governance including elections.
- Explain how various types of misinformation can affect the economy.
- Illustrate how to conduct fact-checking and related techniques and tools to combat misinformation and disinformation.
- Translate media and information literacy competences into specific performance indicators as manifested in terms of knowledge, attitudes and skills.
- Prepare an action programme/project to address misinformation.

1.4. Target audience

The game will have three levels, each level will be dedicated to a different target group. 1st level will be for children aged 8-12, 2nd level will be for teens and 3rd level will be for adults. Each target group has different aspects that are specific to only that target group and game creators should consider them.

Children aged 8-12:

- Age-appropriate content. The game's content should be appropriate for the cognitive and emotional maturity of children. The game should use simple language and relatable examples from their day-to-day lives.
- Interactive and engaging activities. At this age, children are usually visual learners, so the game should have colorful graphics, animations, and interactive elements like drag-and-drop.
- Educational feedback. The feedback should be provided to students after each question, to help children learn from their mistakes and understand the correct answers.
- Encouragement. Younger children sometimes struggle to stay motivated in the learning process, so gamification methods like badges or points could help to motivate the student.
- Safe and secure learning environment. The game should have a learning environment safe from any inappropriate content and protect children's data privacy.

Teens:

- Complex content integration. Incorporate complex content that tackles media literacy on a deeper level, appropriate for adolescent cognitive and moral growth.
- Gamified elements. Gamification elements like points, badges, or leaderboards can motivate teens and provide tangible rewards for their learning progress.
- Diverse media content. As the game will be question-based, incorporate a range of media forms into the questions themselves, such as text excerpts, photos, video clips, or infographics. This diversity not only makes the game more interesting but also teaches teens to deal with a variety of media categories.
- Feedback. Provide thorough feedback on the responses, indicating why certain options are more believable or recognizing than others.

Adults:

- Complex content. Incorporate complicated media literacy concepts that apply to people's personal and professional lives. Questions may include assessing news reliability, understanding the significance of digital traces, and identifying biased reporting.
- Critical analysis. Create the game to challenge adults to critically assess material and make decisions based on their findings, such as navigating misinformation during elections or understanding marketing strategies in digital advertising.
- Diverse media content. As the game will be question-based, incorporate a range of media forms into the questions themselves, such as text excerpts,

photos, video clips, or infographics. This diversity not only makes the game more interesting but also teaches adults to deal with a variety of media categories.

- Feedback. Provide thorough feedback on the responses, indicating why certain options are more believable or recognizing than others. You can include detailed explanations of correct and incorrect answers, with links to further reading or resources that can deepen their understanding of media literacy.

2. GAME DESCRIPTION

2.1. Theme and narrative

The game theme is **Media Literacy**.

In the imaginative world of Mystica, "Clarity Quest: Beyond the Fog" invites players on an adventure shrouded in a mysterious fog. This fog represents the confusing and often misleading information that surrounds us every day. As truth seekers, players face questions they need to answer correctly to clear away the fog, unveiling the hidden truths underneath. With each right answer, more fog lifts, helping players progress in their quest. The story of the game underscores the value of thinking critically and checking facts, equipping players with the knowledge to spot the truth and make smart choices. "Clarity Quest: Beyond the Fog" offers a fun and engaging way to learn about media literacy, with a straightforward question-and-answer play style that both teaches and entertains.

2.2. Game structure

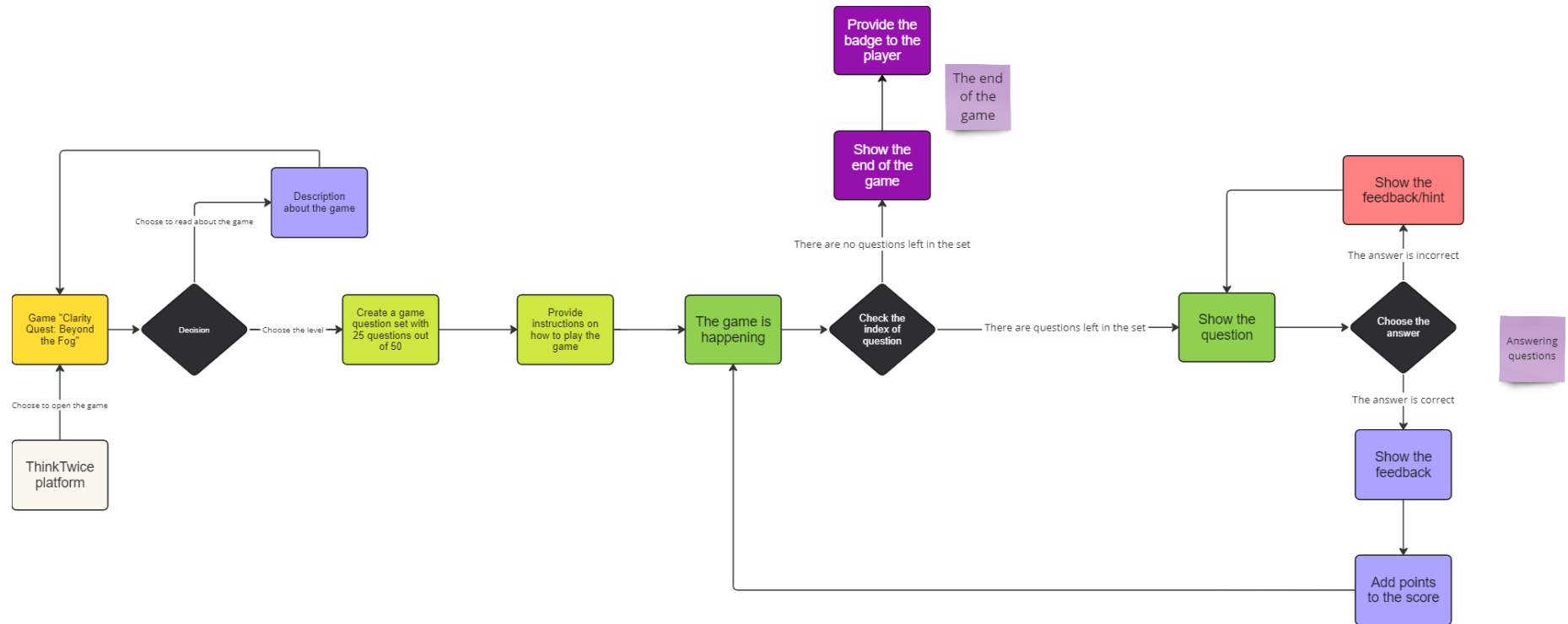


Figure 1. The basic structure of the game

The game will be created using the Godot Engine.

2.3. Visuals and style

The visual design and style of "Clarity Quest: Beyond the Fog" are crafted to align with the project's visual identity, ensuring a cohesive and immersive experience for players. The game employs bright colors and vibrant graphics to create an inviting and energetic atmosphere that captivates and holds the attention of players across all age groups.

The first game design proposals:

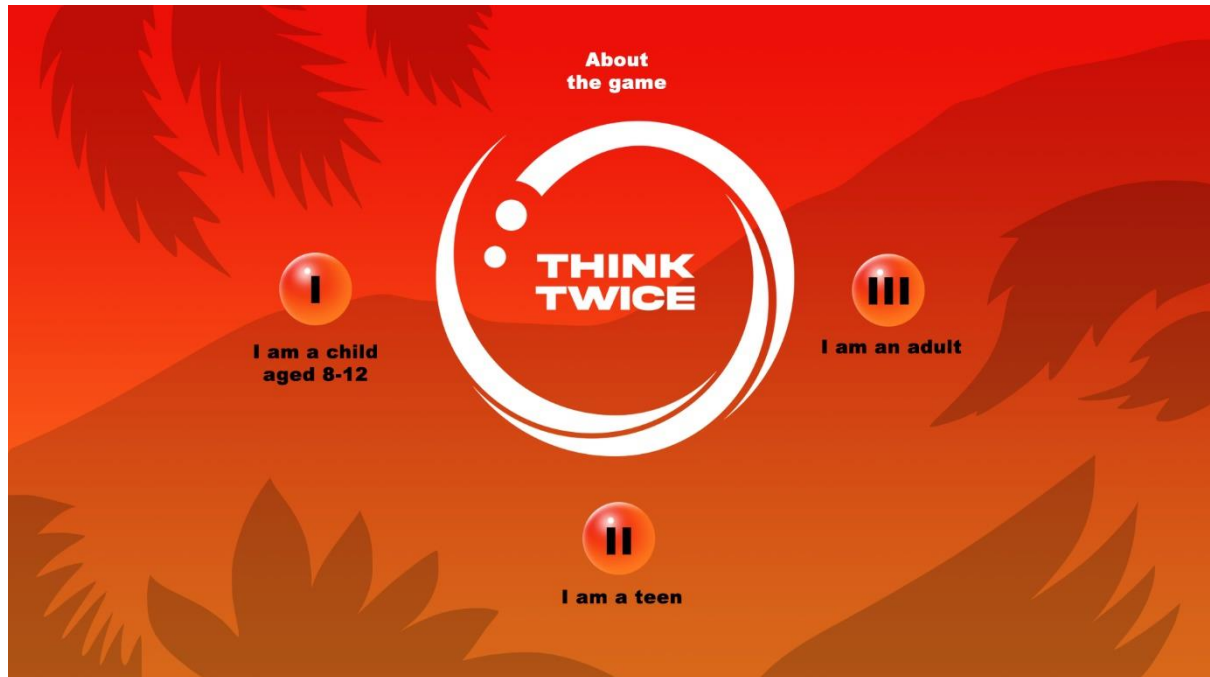


Figure 2. The intro page design

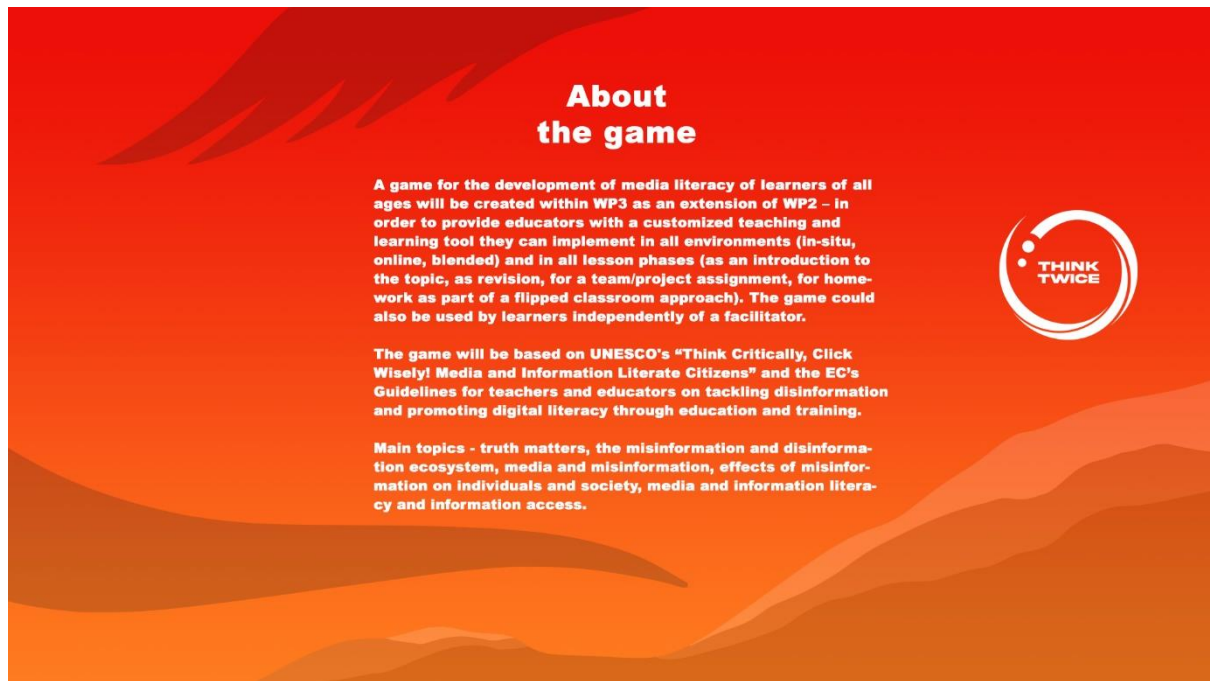


Figure 3. About the game page design



Figure 4. The page for loading the level

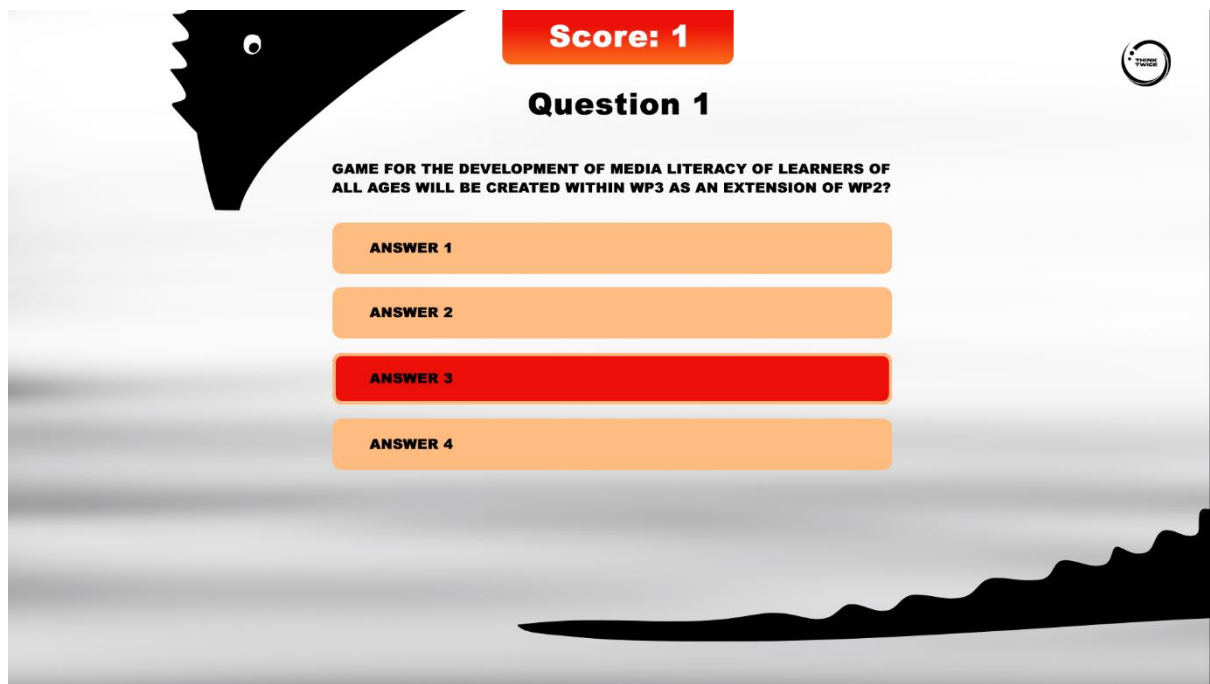


Figure 5. Visualization of the first question (the fog is everywhere)

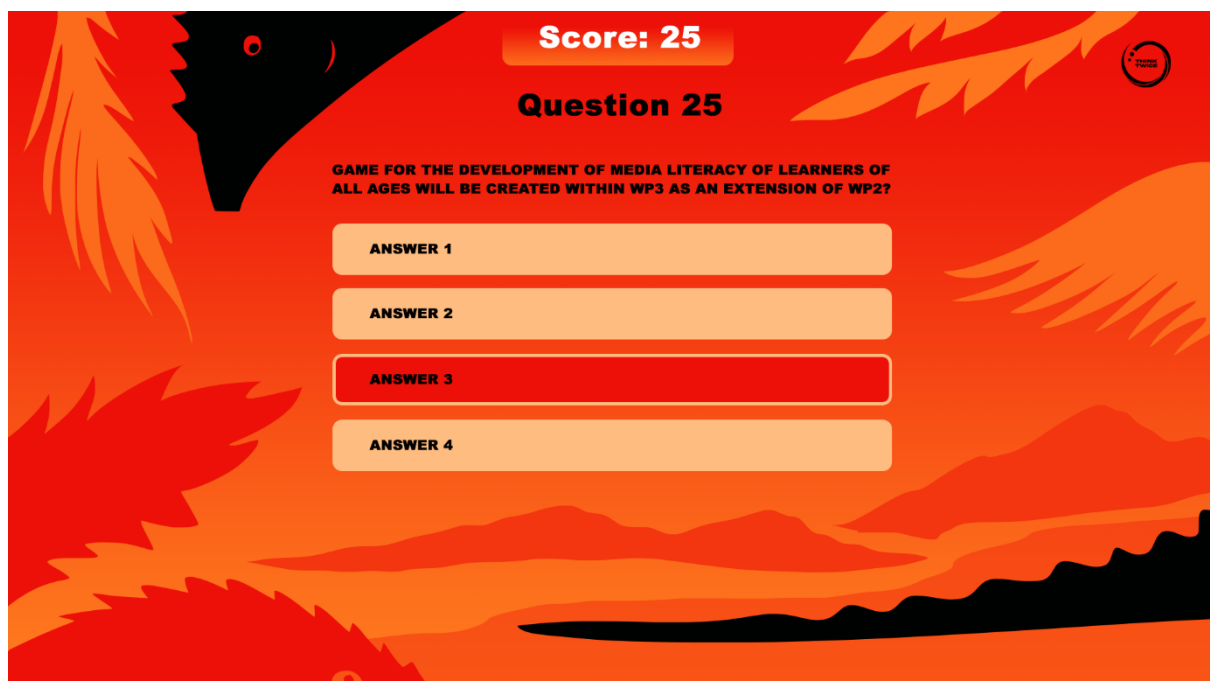


Figure 6. Visualization of the last question (the fog is gone)

3. STRUCTURE AND CONTENT

3.1. Levels

The game consists of three levels, each level dedicated to a specific target group:

- LEVEL 1 – for children aged 8-12.
- LEVEL 2 – for teens.
- LEVEL 3 – for adults.

Each level will cover specific topics and will have different complexity of questions.

3.2. Topics covered

LEVEL 1 – for children aged 8-12:

- Types of misinformation
- Common false content on media platforms
- Characteristics of social media
- Trolling and clickbait
- Addressing misleading content
- Basics of fact-checking

LEVEL 2 – for teens

- Types of misinformation (detailed exploration)
- Real-world case studies of misinformation
- Social media's role in disinformation
- The economic impact of misinformation
- Misinformation's effect on civic participation
- Advanced fact-checking techniques
- Developing an action plan against misinformation

LEVEL 3 – for adults

- Theories of Truth
- Characteristics of the post-truth era
- Importance of truth in journalism
- Evaluating anti-disinformation mechanisms
- The impact of the 'disinfodemic' on health
- Applying media literacy in practical settings
- Designing projects to combat misinformation

3.3. Question types

In "Clarity Quest: Beyond the Fog," players are engaged in learning about media literacy through a question-and-answer style. This format contains three types of questions that support various learning styles and challenges:

- **Single correct answer.** These are traditional multiple-choice questions with one correct answer out of several options. This format helps reinforce specific facts and concepts, providing clear, direct feedback on players' understanding.
- **Multiple correct answers.** This question type will have more than one correct answer, requiring players to use critical thinking to select all appropriate responses. This type encourages deeper engagement with the content, as players must analyze each option.
- **Fill in the blanks.** This type requires players to actively recall knowledge by filling in blank words or phrases in statements or definitions. It's a great approach to assess and reinforce specific knowledge while also encouraging active engagement in the learning process.

Feedback will be provided to the player after each answer. If the answer is incorrect, the feedback will include hints to help the player choose the correct answer next time.

3.4. Assessment methods

In the game, players earn points for each correct answer they give. To make the game more exciting, if someone gets five right answers in a row, their points for the fifth and following correct answers are doubled (until the incorrect answer). This rewards players for consistent correct answers and encourages them to keep going. At the end of the game, players receive a badge/certificate that shows their total points and the level they completed. These badges celebrate the players' success and encourage them to play again to beat their previous scores. This system makes learning fun and gives players a sense of achievement.

4. TECHNOLOGY REQUIREMENTS

To participate in "Clarity Quest: Beyond the Fog," the player must ensure the following preparations are in place:

- **Device.** The player should utilize a suitable device such as a desktop computer, laptop, tablet, or smartphone to access the game.
- **Internet connection.** A consistent and stable internet connection is essential, as the game is hosted online and requires continuous data streaming for uninterrupted gameplay.
- **Web browser.** The player must access the game through a modern web browser that is up to date. Recommended browsers include Google Chrome, Mozilla Firefox, Apple Safari, or Microsoft Edge, all of which should be current to support the game's features fully.

To begin, the player should open their web browser, enter the ThinkTwice website URL, and follow the on-screen instructions to start their adventure.



5. DEVELOPMENT TIMELINE

TASKS:

- Game outline by M6 (May, 2024) - BETI
- Development guide by M7 (June, 2024) – BETI
- Content development by M9 (August, 2024) - DANTE, CESIE, SYNCNIFY, TRH, CPIP, ODYSSEA
- Graphics development and first prototype by M11 (October, 2024) – BETI and MENTORTEC (UI)
- Guides for educators by M12 (November, 2024) - TRH, CESIE, and DANTE
- Testing by M12 (November, 2024) – ALL PARTNERS
- Translations in all partner languages by M14 (January, 2025) – ALL PARTNERS
- Game pilot done in M15 (February, 2025) - M16 (March, 2025) – ALL PARTNERS

DELIVERABLES:

- Think Outside the Box Game by M14 (January, 2025)
- Think Outside the Box Gamification Guide for Educators by M14 (January, 2025)

Partners

