

FI.DO: FIGHTING FAKE NEWS AND DISINFORMATION- A SERIOUS GAME AND NEW METHODOLOGIES FOR TRAINING SENIOR CITIZENS

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Abstract

“Fake news” and disinformation are not contemporary phenomena [1], they are though phenomena whose possibility to spread all over the world has multiplied exponentially [2] due to the ease with which anyone can access and disseminate information through the Internet, true and false, all over the world. The Internet has not only vastly increased the volume and variety of news available to citizens but has also profoundly changed the ways citizens access and engage with news [3]. The ease of availability of diverse quality information has the potential to make democratic processes more participatory and inclusive, yet exposing citizens to large-scale disinformation, including misleading or blatantly false information, is a major challenge for Europe.

With a constantly aging European population [4] and the opportunities that universal access to health care has provided, senior citizens are now more than ever a growing and essential part of participatory processes, but in great risk of disinformation due to the lack of deeper education on digital media literacy [5]. As such the project FIDO – Fighting fake news and DisinforMation aims to improve the level of digital skills of seniors regarding the use of internet-based communication platforms, including the social media, through creating thorough methodological material and gamification techniques for adult educators and senior citizens. Alongside creating a serious game, with an overarching goal of quality access to information that foster informed decisions for oneself and their community.

The concept of gamification starts from the idea of making a necessary process potentially fun and accessible, by applying theories and models of gaming to layers of social life that are not necessarily playful. Gamification represents the intent to introduce common dynamics to the games without the user necessarily having to notice it, but in a way, who can perceive the benefits.

The complex theme of accessing fake news and disinformation becomes more evident and understandable if a direct experience capable to show the steps [6] of the manipulatory process, is made. In this, playful and gamification models have shown extreme effectiveness, being used as safe simulation environments that lead the experience towards moments of growth.

Starting from this last consideration, the FI.DO project proceeded, expanding the playful learning perspectives promoted by Resnick's research and theory of playful learning [7] and applying them to an adult audience, through the Creation of the FI.DO serious game app “Authenticity”.

This paper has been completed by the project consortium of the Erasmus+ KA2 " FIDO – Fighting fake news and DisinforMation". The project consortium is activated in 4 European participating countries, Italy, Greece, Poland and Slovenia. The results and conclusions shared in our paper where the conscious and researched outcomes of the implementation processes of the project, aiming to provide a more complete overview of the framework under which the tools created can aid us in more consistently advocating for the education of senior adults towards making conscious decisions upon critically reviewing, accepting and spreading information.

Keywords: Fake news, disinformation, serious game, training methodology, European consortium, information access, senior citizens, journalism, education.

1 INTRODUCTION

The Project FI.DO 'Flying fake news and DisinfOrmation' is a project funded by the Erasmus+ Program under the KA227 - Cooperation for innovation and the exchange of good practices Partnerships for Creativity, in the field of adult education. It engaged partners from 4 European countries representing 4 different cultural sectors: Soc. COOP. Aforisma and QZR srl. from Italy, IDEC and DAFNI KEK from Greece, ZLU and RUSAALKA from Slovenia and AHE from Poland.

The project objectives and activities were designed to enhance seniors' digital skills. The target group of the project are older users of social media. Two partners, RUSAALKA and DAFNI KEK are from the Visual and Film Production sectors, there is one partner representing creativity sector, QZR srl. with experience in the management and production of IT contents, social media and videogames, and last but not least, the scientific support is given by AHE, the University of Humanities and Economics of Łódź. Having this diverse array of experience and expertise, the project team developed innovative practices (activities and Intellectual Outputs) aimed at supporting the skill improvement of seniors and the development of trainers; 5 partners, Soc. COOP. AFORISMA, ZLU (Zasavje People's University), IDEC and AHE are actually educational organizations for adults.

The project's main target group are senior citizens who have already developed a certain knowledge of the digital world, often acquired through practical use of the tools but not supported by any theory or specific preparation. Seniors have tumbled into a digital age, whose mechanisms they may have difficulty recognizing. To this extent, they are more vulnerable and permeable to poor information. Clearly, knowledge of these mechanisms would help them manage digital tools differently and more knowingly, as the Web is fraught with numerous pitfalls. It is an excellent resource and it has broadened the horizons of our knowledge; still, it is increasingly necessary to develop the tools that can enable users to benefit from it in the best possible way. Improvement of skills in FI.DO project focuses on those necessary to recognize fake news and disinformation.

The rapid spread of the Covid-19 epidemic has multiplied the possibility of accessing false news that can go around the world in a moment, bringing the unaware and unequipped user to believe it, especially that false or manipulative info was also spread by mainstream media. By supporting the setup and access to upskilling pathways, the FI.DO project aims to improve digital literacy of seniors, particularly in recognition of fake news and disinformation. In the context of the contemporary information age, media and information literacy have become an essential competence, as it is the starting point for developing critical thinking and good personal practices for discourse online, and consequently, in the offline world. The present information age requires life-long learning in terms of media literacy, in order to reduce social exclusion. To achieve this goal, it is necessary to intervene on various levels. One way is to empower users of online services, making them aware and providing them with the tools to adopt a critical approach to the issue. The project intends to strengthen the social inclusion of the 'disadvantaged' age group when it comes to the digital world.

180 seniors in total (45 in each partner country) have been selected by the educational organizations AFORISMA, IDEC, ZLU and AHE, as participants of training activities. The selected candidates attended the Living Labs held in Italy, Greece, Slovenia and Poland. All partners have contacted 60 seniors, with a request to submit a simple questionnaire, drafted in the initial phase of the project. By adding together, the participants of the Living Labs in the 4 partner countries and the total participants in the questionnaire, 240 seniors have been reached by the project initiatives and have benefited from its results.

In this paper we will try to present the methodology followed in order for the project to develop its tools which consist of 1) a new training Methodology, 2) a manual for practitioners and 3) a Serious Game

“Authenticity”, along with some key results from the Living Labs that acted as piloting and training sessions of the project outcomes.

2 METHODOLOGY

“Fake news” and disinformation are not contemporary phenomena [1], they are though phenomena whose possibility to spread all over the world has multiplied exponentially [2] due to the ease with which anyone can access and disseminate information through the Internet, true and false, all over the world. The Internet has not only vastly increased the volume and variety of news available to citizens but has also profoundly changed the ways citizens access and engage with news [3]. The ease of availability of diverse quality information has the potential to make democratic processes more participatory and inclusive, yet exposing citizens to large-scale disinformation, including misleading or blatantly false information, is a major challenge for Europe.

Fake news includes disinformation that is generally used to refer to deliberate attempts to confuse or manipulate people. Spreading fake news can start from an individual seeking profit, from state actors who wish to advance geopolitical interests and from opportunists looking to discredit official sources. [8]. It is often combined with different and intersecting communication strategies, with hacking and making compromises, which create disagreement between people. In this way it can be a very powerful and destructive tool [9]. If we explain the disinformation in a simple way, it means spreading misinformation, but those two terms differ when it comes to their intent.

Misinformation is false information distributed, regardless of intent to mislead. When it is not clear that the information is false and it is shared, then we refer to it as misinformation. It may be easily distributed through technology and social media, which makes it difficult to recognize, as one may never be 100% sure of the intent behind the misinformation. Sharing misinformation is especially a concern for journalists and authors, who can be sued for libel if they breach professional standards and ethics.

With a constantly aging European population [4] and the opportunities that universal access to health care has provided, senior citizens are now more than ever a growing and essential part of participatory processes, but in great risk of disinformation due to the lack of deeper education on digital media literacy [5]. As such the project FIDO – Fighting fake news and DisinfOrmation aims to improve the level of digital skills of seniors regarding the use of internet-based communication platforms, including the social media, through creating thorough methodological material and gamification techniques for adult educators and senior citizens. Alongside the initiative of the FIDO project other initiatives on strengthening the skills of adult educators in an aim to end disinformation have sprouted, like the Erasmus+ KA2 project DesinfoEND which has complementary actions developing and may consequently add to the usability promise of the FIDO materials.

Alongside the aforementioned the FIDO project understood the promise of creating a serious game, with an overarching goal of quality access to information that foster informed decisions for oneself and their community.

The concept of gamification starts from the idea of making a necessary process potentially fun and accessible, by applying theories and models of gaming to layers of social life that are not necessarily playful. Gamification represents the intent to introduce common dynamics to the games without the user necessarily having to notice it, but in a way, who can perceive the benefits.

The complex theme of accessing fake news and disinformation becomes more evident and understandable if a direct experience capable to show the steps [6] of the manipulatory process, is made. In this, playful and gamification models have shown extreme effectiveness, being used as safe simulation environments that lead the experience towards moments of growth.

Starting from this last consideration, the FI.DO project proceeded, expanding the playful learning perspectives promoted by Resnick's research and theory of playful learning [7] and applying them to an adult audience, through the Creation of the FI.DO serious game app “Authenticity”.

3 RESULTS

As tangible results of our project research and piloting we identify, and highlight in this section, two main strands of development: 1) the FIDO Living Labs and 2) the FIDO Serious Game: “AuthentiCITY”. In this section of our paper we will try to showcase the main characteristics of these two strands of participatory implementation processes as well as initially review the findings of the processes.

3.1 The FIDO Living Labs

The FIDO Living Labs are designed as face-to-face workshops where a trainer presents the prepared and described material of the New Training Methodology to the target group and engages the participants through exercises and activities.

For the piloting run of the Living Labs each partner organisation chose the trainer(s) with significant experience in the field of communication and media. The trainers explained and addressed the challenges of disinformation on social media and traditional media outlets.

The trainers conducted the Living Labs’ sessions according to the guidelines below. The latter, based on the evaluation results, assured the seniors’ engagement and honest feedback during the workshop.

- *Participatory approach*: a core aspect of the Living Labs is the active involvement of the target groups. It entails active involvement of seniors their contribution in the sense of ideas to what communication and disinformation represent in this day and age. The approach refers to the practical activities and initiates active discussion regarding the outcomes and results of such activities with the others.

- *Engage your audience as much as possible*: to maintain the learners’ attention at an acceptable level, the trainer should address them with questions, follow-up thoughts and brief argumentations. This way, the seniors will continue to follow the trail of words and examples without missing out on important aspects.

- *Use small groups*: by sorting learners each time into small and different groups, the trainer asks to carry out activities that will keep the audience engaged and interacting with each other. The activity may involve two groups addressing each other as a debate or a role-play.

- *Use of visual support*: visual media represents one of the core elements of FI.DO project. Employing two different partners who are experts in creativity and arts, the partnership can build upon such expertise to identify the most appropriate visual content that the trainers can present to the target audience and guide the discussion through the different media.

During the Labs, the trainer presented a set of material that exploits the activities prepared in the Training Methodology adapted to the national context: that means, with news and information that is familiar to the local target group. During the preparation of the Methodology, the research team relied on mainstream media as a valuable source for news: however, during the implementation of the first 2 Living Labs in each participating country, participants noted how also mainstream media are not immune to fake news. For this reason, we encourage trainers who will use this Training Methodology for the organisation of Living Labs to be on the lookout for fake news when gathering and preparing the training materials.

3.1.1 Main Outcomes of the Living Labs #1 and #2: Working with the Training Methodology

In the table below we will try to summarise the most evident findings of the first two living labs as the findings of the third living lab, relating to the piloting of the serious game will be given in the following sub-chapter of the results. The findings are organized according to the 6 areas of interest tackled in the training methodology in order for them to more substantially feed the review of the piloted project result.

Table 1. Key findings of the Living Labs #1 and #2.

<i>Area of Interest</i>	<i>Findings and Opinions</i>
Deep Fake	The discussions upon deep fake were really substantial as in most partner countries related to how could a person understand a good deepfake and how would they be able to

	know the difference. The existence of online tools and journalist schemes that check for use of deep fake software were most appreciated.
Troll Farming	Troll farming is a concept that most citizens were unfamiliar with, and as such used more time in order to understand its premise upon the first stages of the workshop elaboration. Some participants felt that this area of fake news may not relate to their age as much as for the younger generations that interact most using media. Nevertheless there were mentions of trolls from troll farms visiting pages, especially through Facebook, that are mostly populated by seniors.
Language based manipulation	Language based manipulation was a topic that spurred the discussions around ethical journalism and the extent towards what is and what isn't ethical in terms of presenting information and how the language used can propagandise beliefs.
Misinformation and data manipulation	Data manipulation seemed to be exceptionally challenging especially with participants with a lack of mathematical or statistical familiarity. Explaining how basic graph elements are structured had some initial result in correctly identifying the examples presented through the activities proposed in the training methodology.
Pseudoscience and conspiracy theories	Pseudoscience and conspiracy theories were probably the most conflicting subject discussed in the living labs as several participants believed multiple of the theories proposed as either. The most important finding was how a balance can be achieved when the group of learners has the ability, due to its diversity, to enforce peer learning and thorough discussions to resolve conflicts even in a short-term setting.
Biased information	The level of biased information relative to the standard of the beliefs of the majority of the people following a specified stream of media was thoroughly highlighted as the main challenge towards understanding information as biased versus agreeable.



Figure 1. Picture from the living lab #2 conducted in Patras Greece by DAFNI KEK.



Figure 2. Picture from the living lab #1 conducted in Pisa, Italy, by Aforisma.

3.2 The FIDO Serious Game: AuthenticITY

3.2.1 The Design Process

The design process for Authenticity involved a thorough understanding of the problem of fake news and its impact on senior citizens. This was achieved through research on the topic, in particular for the previous outputs of the same project, and specific research on game dynamics for seniors that usually are not involved into digital game activities.

It was identified that seniors are particularly vulnerable to the effects of fake news due to decreased digital literacy, and a tendency to trust traditional news sources. To address this issue, the game mechanics were developed to effectively educate players on how to identify and evaluate the authenticity of news sources and content.

In order to avoid the resistance against a game perceived as futile, the game was designed as a chat software simulation, to mimic real-world scenarios and make the experience more relatable to users. The graphic design is deliberately simple and flat, without too many elements of distraction, but with an overall sense of seriousness and reality.

The game was designed to be engaging and interactive, with a focus on real-world scenarios and decision-making.

3.2.2 Kind and Structure of the Game

Authenticity is a web-based chat simulation game developed using the Vue JavaScript framework. The game presents players with various news scenarios, which are divided into different social groups. Each social group corresponds to a different scenario, such as politics, economy, or health, and the players are prompted with several questions about different news articles. The aim is to help players define whether a certain article is fake or not. Through a series of interactive exercises, players learn to spot the signs of fake news and develop the skills to verify information from credible sources.



Figure 3. Screen from the AuthenticITY game home page

3.2.3 Scope of the Game

The game is intended to reach a wide audience, with a focus on senior citizens who may be particularly vulnerable to the effects of fake news. The game's interactive and engaging design makes it accessible to players with varying levels of digital literacy and technological proficiency. The game aims to empower seniors to take an active role in their own media consumption and to make informed decisions about the information they consume and share. Additionally, it can be a good way to be aware of what kind of misinformation is circulating in society and learn how to spot it. Overall the game's design process is carefully planned, with the goal of providing a realistic simulation of real-world scenarios, making it easy for users to relate to the game and better understand the subject matter. Also, the inclusion of chat simulation feature, which allows the player to experience the game in a more relatable way, can enhance the engagement and improve the learning path of the users.



Figure 4. Screen from the AuthentiCITY game phase of participating in the chat

While this game has the potential to change the way people interact with news in society, it's important to keep in mind the willingness of the players to be influenced by it: the number of scenarios exploited is limited but comprehensive of several types of fake news techniques, making it more efficient for the players to learn about critical thinking and fact checking.

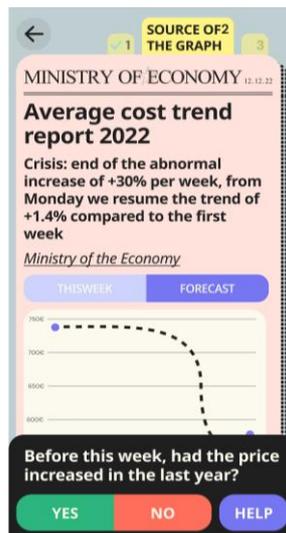


Figure 5. Screen from the AuthentiCITY game phase of factchecking data manipulation

3.2.4 Main Outcomes of the Living Labs #3: Working with the Serious Game

In the table below we will try to summarise the most evident findings of the third and final living lab where senior citizens navigated and piloted the FIDO Serious Game: "AuthentiCITY". Up until January 2023 only the Slovenian segment of the Living Labs #3 had taken place acting as an initial focus group for the findings presented below.

Table 2. Key findings of the Living Labs #3

<i>Key Finding</i>	<i>Elaboration</i>
Enthusiasm	Everyone was enthusiastic about the video game and were quite intrigued in the manner they were supposed to solve the problems of fake news. Pointing out the thorough introduction which preceded the game
Debating on the concept of Fake News	The thorough introduction brought some insights about the history and ways in which fake news, pseudoscience and conspiracy theories became a problem of the modern societies. The participants were thankful for it because it engaged a debate among the participants. Web sites for checking information and news were also well received.
Practicality	The participants said that the video game was very practical in the sense that they were confronted with fake news as they might be on a daily basis when searching different information.
Security	The importance of being cautious when reading news was also an advice that the participants positively received.
Personalisation	It was noted that it would be better if the examples were more diverse, even personal.
Level of difficulty	Participants also observed that the examples of comments and articles were too obvious to assess but were particularly satisfied with the presentation of how to look for additional sources for further explanation of the information in the articles.



Figure 6. Picture from the living lab #1 conducted in Ljubljana, Slovenia, by ZLU

4 CONCLUSIONS

As a consortium we understand and stand along the belief that the information age requires life-long learning in terms of media literacy, to reduce social exclusion, as explained by the European Digital Agenda. The strength of media and computer literacy is that it is a preventive, rather than a reactive solution, provoking critical thinking, which is crucial for the 21st century citizen living in an ever-increasing digital environment. The FI.DO project identifies seniors as citizens above the age of 65, who are newcomers to digital media and therefore are more vulnerable to fall prey to e.g., fake content or manipulated images.

The project consortium has identified its outmost promise to be, based on the findings of the Living Labs and the international literature advised, the development of seniors' skill and inclusion through creativity

and the arts, through improving seniors' digital competences in recognizing media disinformation and fake news, and supporting their inclusion in a digital world through creativity and gamification, as well as improving trainers' skills and performance through the produced Training Methodology which aims to foster new competences on how to manage and coordinate group activities and focus on the project-specific themes.

This goal has started taking flesh and bones through:

- a) the participation of 180 seniors to the Living Labs;
- b) offering seniors the possibility to explain, during the Living Labs, their needs and their difficulties to avoid traps of a digital world;
- c) free access to educational tools, such as the manual and the serious videogame developed during the project.

The premise of gamification subsequently has related to the very need for understanding and not patronising senior citizens and helping them experience new learning streams through a non-didactical lens, providing them with a much easier to navigate sense of learning away from the gaze of the younger generations.

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