

Agency as a mode of involvement with information design

Agência como modo de envolvimento com o design da informação

Luciane Maria Fadel, António Coelho

agency, involvement,
interface, interaction
design

This paper approaches agency as the primary mode of involvement with information design. We are particularly interested in the design of information in a digital interface. We consider that agency as a mode of involvement can frame the dimension of information design in a digital interface. In order to do so, the close reading method was applied to investigate how the interface supports the agency on two websites. Personal interest, points of contact, and information processing performed as analytical lenses. The findings suggest that the agency involvement with the information design supports designing the information in its concrete aspect. Information design tends to facilitate the entire scope of the agency in receiving this interface. Mastering action is the most evident due to the haptic dimension of interactivity and its immediate effect on the interface. Thus, recognizing the importance of agency involvement can benefit both the analysis and production of information design.

*agência, envolvimento,
interface, projeto
de interação*

Este artigo aborda a agência como o principal modo de envolvimento com o design da informação. Estamos particularmente interessados no design da informação em uma interface digital. Consideramos que a agência como um modo de envolvimento pode enquadrar a dimensão do design da informação em uma interface digital. Para isso, foi aplicado o método de leitura atenta para investigar como a interface suporta a agência em dois websites. O interesse pessoal, os pontos de contato e o processamento de informações foram utilizados como lentes analíticas. Os resultados sugerem que o envolvimento com o design da informação pela agência, apoia o projeto da informação em seu aspecto concreto. Por outro lado, o design da informação tende a facilitar todo o escopo da agência no recebimento desta interface. O domínio da ação é o mais evidente devido à dimensão tátil da interatividade e seu efeito imediato sobre a interface. Assim, o reconhecimento da importância do envolvimento por agência pode beneficiar tanto a análise quanto a produção do design da informação.

1 Introduction

A digital interface is a space formed by graphic, textual, and interaction elements representing a company, service, idea, object, or person. The interface design is expected to be consistent with the purpose of this digital representation so that its appropriation by the interactor

happens accordingly. Thus, the representation of services, such as ticket sales or car rentals, will be configured based on information design principles. This is because “information design is an area of design whose purpose is the definition, planning, and configuration of the content of a message and the environments in which it is presented, to satisfy the informational needs of the intended recipients and promote communicative efficiency” (SBDI, 2021).

The informational need is understood as a subjective experience that occurs in the mind of the interactor in specific situations or even an objective condition observable when detailed information satisfies the need that generated it (Martínez-Silveira & Oddone, 2007). This definition seems appropriate when dealing with information design, as it establishes a relationship between the information presented and the purpose of that information for the individual.

Information design represents valuable information because the interactor will act on it. Therefore, this paper explores information design as support to the interactor’s objectives providing an opportunity for agency involvement with the interface.

2 Involvement with media

Eichner defines involvement as “the general attachment to any media text with both cognitive and emotional activities of the recipient” (Eichner, 2014, p. 127). It can be understood as a degree of proximity, personal interest and supported by the points of contact and information processing employed in media reception.

Involvement takes place in two stages. In first-order involvement, the text is recognized as organized clusters of knowledge. The initial clues of the medium are captured in the process of selection and interpretation to constitute phase two of appropriation.

Therefore, this first stage is a mandatory condition for the second. Second-order involvement evolves according to the disposition of the interactor, medium, concrete textuality of the artifact, and the situation of use. “Textuality is that which constitutes a text as a text in a particular way” (Silverman, 1986, p. 54). Textuality is a condition of the text and its practice.

These interrelationships arouse different modes of involvement, but design strategies can favor a specific mode. Each mode emphasizes the various strategies of text appropriation, additional themes, and emotional aspects in recognition, understanding, and meaning creation. Thus, the meaning of a text will be different if the mode of involvement is habitual or immersion, for example (Eichner, 2014).

From this perspective, the communication model consists of different phases that presuppose an interactor with cognitive and emotional states and an artifact with form and content.

Based on the works of Suckfüll (2004),¹ Odin (2002),² Askwith (2007),³ Calleja (2011),⁴ and Friess (2011),⁵ Eichner composed nine

- 1 Suckfüll, M. (2004). *Rezeptionsmodalitäten. Ein integratives Konstrukt für die Medienwirkungsfor-*schung. München: Verlag Reinhard Fischer.
- 2 Odin, R. (2002). *Kunst und Ästhetik bei Film und Fernsehen: Elemente zu einem semio-*pragmatischen Ansatz. *Montage AV*, 11(2), 42–57.
- 3 Askwith, I. (2007). *Television 2.0: Reconceptualizing TV as an Engagement Medium*. Master Thesis, Department of Comparative Media Studies. MIT.
- 4 Calleja, G. (2011). *In-Game: From Immersion to Incorporation*. MIT Press.
- 5 Friess, R. (2011). *Narrative versus spielerische Rezeption? Eine Fallstudie zum interaktiven Film*. Wiesbaden: VS Verlag für Sozialwissenschaften.

modes of involvement: immersion/presence, character, playfulness, excitement, spectacle, analysis, inspiration, habitual and agency.

2.1 Immersion and presence

Immersion and presence refer to the same phenomenon: the mental process embedded in a story. Immersion derives from literary theory, with deep involvement with the text. Immersion is a metaphor for being submerged in water (Murray, 1998). This metaphor implies that this dip will influence perception.

As involvement Eichner (2014, p. 143) argues that immersion is a “diegetic effect,” the transport that occurs in the “experience of the fictional world as an environment.” This transport is possible thanks to the idea of Coleridge (1817) and the “suspension of disbelief.” Coleridge asks the interactor to accept the diegesis of fiction and actively give form to it.

This scenario is evident in immersive virtual environments. The environment involves the body, often involving the senses (Biocca, 1997).

Presence is conceptualized as the subjective feeling of “being there” in a fictional or virtual universe. Presence can be divided into two dimensions: liveliness and interactivity. While the first is the technology’s ability to produce a sensory-rich mediated environment, the second refers to the degree to which interactors can influence the form or content of the media environment (Steuer, 1993).

2.2 With the character

Involvement with the character can happen through identification, parasocial interaction, or empathy. Empathy promotes understanding the character’s motivations. Identification leads to a sense of intimacy and emotional connection (Eichner, 2014). Identification originates in childhood, establishing the emotional bond between the child and others, and facilitating learning and communication through imitation. Thus, the text can offer elements that provoke this identification on the part of the interactor, either through physical similarities such as gender, age group, and ethnicity or through behaviors, attitudes, and values.

The parasocial interaction with the character occurs mainly in television programs and newscasts. The presenter talks directly to the audience, creating the feeling of social interaction and intimacy, which generates an illusion of personal relationships (Keppler, 2008). Although the differentiation between this interaction and the real interaction is apparent, it creates this sense of closeness since it is unidirectional.

2.3 Ludic

Ludic involvement is a specific form of play. Zimmerman (2004, p. 159) understands “play” as “a space free of movement within a more rigid structure, existing both in function and despite this less flexible system.” This definition reinforces the idea of framing as a safe area. That is, by accepting this “play-frame,” the player allows the “what if” and “let’s imagine.” It is related to Huizinga’s magic circle (1944).

The ludic involvement with the media is characterized by rules to be explored and appropriated. It includes the decision-making, motivation, and planning processes so that the interactors can follow the hierarchy of objectives proposed by them or by third parties. Ludic involvement is also characterized by external or internal rewards (Eichner, 2014).

2.4 Excitement

Emotional activities are essential in receiving and creating meaning, and in combination with structured knowledge, they can dominate the mode of media involvement. Emotion is a situational quality provoked by previous significant experiences and is always related to the individual’s social reality (Eichner, 2014). Specific aesthetic-formal structures and decisions influence particular forms of emotion. Eichner (2014) cites a horror film as an example, where the aesthetics presented and decision-making dictate the narrative’s mood, provoking emotions that dominate the experience with the media.

2.5 Spectacle

Gunning (1990) suggests that involvement with films before 1906 was characterized by exhibitionism, mainly new technology. Gunning uses the expression “Cinema of attraction” to designate this period of cinema, where attraction refers to Eisenstein’s term for analyzing theatre. Eisenstein identified that attraction aggressively subjects the viewer to a sensual and psychological impact. Thus, the spectacle mode can be characterized as the visual domain to the detriment of the narrative or ‘tension’ between the narrative dimension and the visual dimension, between the identification with the characters and the pleasures involved in looking at the images.

Involvement through spectacle is essential in video games, where graphic quality and special effects can help perceive space, support the narrative, and increase interactivity. The spectacle also occurs in cinematographic productions, when the experience of the pleasure of seeing the film for its graphic quality surpasses the narrative presented (Eichner, 2014).

2.6 Analysis

The mode of analysis involves a posture of detachment. The interactor is placed as an observer and not as a participant in the action. The analysis can be divided between the aspects of the production, which reflects on the creation of the media text, or the extratextual immersion, which offers the pleasure of admiring media artifacts (Eichner, 2014). In a film, the analysis can occur from the interest in technical questions: acting, film structure, aesthetics, production, and direction, among others.

2.7 Inspiration

According to Eichner (2014), the media is incorporated into everyday life and uses previous experiences and knowledge so that the interactor can attribute meaning to it. Inspiration mode refers to the strategy of getting new ideas or learning something through media, going beyond this attribution of meaning.

2.8 Habitual

While most modes of involvement require directed attention or intent, habitual involvement (along with spectacle and ludic) is neither intentional nor directed. It is the mode of involvement conditioned by routine (individual) and rituals (collective), exempting people from making conscious decisions and controlling everyday actions. Television programming is organized in people's routines – with programs aimed at the expected audience in each part of the day (Eichner, 2014).

2.9 Agency

Agency can be defined as the general ability to perform actions based on “it could have been done differently” (Eichner, 2014). In other words, the agency can be defined as the feeling of being an agent, acting, making a difference, and influencing in a significant way.

The other modes of involvement also affect the agency, mainly immersion and presence, which are directly related. Also, involvement with the character positions the interactor within the story and regulates intimacy and detachment. One can perceive the character's agency as his own. The ludic involvement makes the agency possible, as it has a high mental activity for the possibilities and creation of worlds, firmly based on the interactor's ability to formulate an accurate hypothesis within a complex story, make a sure bet in a strategy, or a correct choice in a video game.

As the main aspect of the discussion in this paper, agency involvement is discussed next.

3 Agency

Agency is a central condition in sociology and linguistics because it refers to the human capacity to act in the world (Ahearn, 2001). Ahearn warns of the multifaceted definitions of the agency. These involve from free will to systems of power and resistance. But it is language agency that can explain how social reproductions become social transformations. Ahearn (2001) understands that language and culture better understand agency.

Bandura (2001) relates agency to acting intentionally in the world. The intention, therefore, characterizes planned and strategic actions. In addition to intentionality, the author cites three other fundamental properties of the human agency: premeditation, self-reactivity, and self-reflexivity (Bandura, 2006). Premeditation sustains motivation as it refers to setting goals and expected results. Self-reactivity is building appropriate courses of action and executing those actions, and self-reflexivity is the ability to monitor and reflect on one's thoughts and actions. This metacognitive ability to reflect on one's actions and adapt actions and thoughts is the central property of human agency (Bandura, 2006). Agency implies the power to effect change through actions (the belief in personal efficacy). Giddens (1984) also believes that agency has to do with people's ability to do things.

Bandura (2006) emphasizes that agency does not only occur on a personal level but also a proxy level (depending on the experience of others) and a collective level. Thus, the agency is not just the ability to act but the ability to have acted differently. Therefore, it implies a creative capacity that depends on the individual and sociocultural resources (Eichner, 2014).

One of the most influential works about the agency we experience when interacting with a medium is *Hamlet on the Holodeck* (Murray, 1998). Murray defines agency as "the satisfying power to take meaningful action and see the results of our decisions and choices" (p. 123). Murray argues that typical venues for the agency experience include structured games, the pleasure of browsing, and constructivist stories. Along with immersion and transformation, they form the aesthetics of the computer. In this sense, the agency is not a characteristic of the medium but an aesthetic pleasure perceived by the interactor (Murray, 1998). This means that the interactor experiences the power to change the environment beyond simple interactivity.

Tanenbaum and Tanenbaum (2009) structure agency as representing a commitment to meaning. They explored the idea that the player must agree to be part of the experience and the intent behind a choice. This agreement approximates what Huizinga (1944) called the magic circle.

Most notable for this paper is Susanne Eichner's (2014) agency model, which did not restrict agency to the gaming experience. Instead, Eichner (2014) investigated agency as media reception experience and constructed an agency model as a mode of media involvement. Eichner (2014) understands media reception as creating

meaning through interaction with the symbolic material presented in a media text.

Agency for Eichner is the feeling of power, control, influence, and making a difference, a good feeling that emerges within the textuality of a medium. Thus, agency is characterized by reciprocity between the receiver's disposition, mediality, and textuality with the artifact's form, composition, and aesthetics. Mediality is defined as a quality dimension of mediation in its historical authenticity. The focus shifts to the states that allow mediation and how text, images, objects, and discourses establish meanings (Stercken, 2015).

Agency as a mode of media reception is induced by specific textual strategies and is conceptualized as operating at three levels: personal agency, creative agency, and collective agency.

The basic form of agency is personal, which can be understood through different textual strategies: mastering narrative, choice, action, and space. Mastering action is the most apparent form of agency, which is perceived through interactive performance through an interface related to control and flow. Mastering narrative supports agency when the text's pattern is recognized, and the text is interpreted according to the reader's representative knowledge. Mastering narrative evolves if interactors accept touchpoints (film leads to inference through narrative and aesthetic cues). Mastering choice emerges if it is made deliberately and the interactors perceive that it makes a difference and is influential. Mastering space increases immersion and a sense of presence. The pleasure of navigating in space (Manovich, 2002; Murray, 1998) depends on finding orientation within it while exploring space and possibilities freely. Eichner (2014) relates the sense of presence and immersion in the digital environment with mastering space, which occurs when the media text allows navigation and guidance through the environment.

4 Design of interactive artifacts

This paper assumes the proposal of Sharp, Rogers, and Preece, for whom interaction design is broad and involves the interface and navigation design: "Designing interactive products to support the way people communicate and interact in their everyday and working lives" (2018, p. 9). Although this definition emphasizes the artifact as a mediator of communication between people, this paper also considers the interaction with the artifact, or human-computer interaction (HCI).

On the other hand, for Garret (2011), interaction design is seen as a step in designing the user's experience. It predicts possible behaviors of the interactor and how the system accommodates itself.

A design project often starts with determining the client and the user's goals (Garret, 2011). Other stakeholders include programmers, producers, and society (Krippendorff, 2005). Once the requirements of both are determined and the necessary content is available, this content

is organized through the information architecture. The generated structure defines the pages distributed in a spatial and navigable logic, culminating in the website map.

The pages are composed in wireframes considered in terms of functionality or content. The functionalities involve interaction points with the interactor, either through data entry or links.

From the wireframes, the concrete aspect of each element is determined in terms of shape, color, and typography. Depending on the site's purpose, the information design of these elements forms the central axis of the proposal.

One might think that information design has usability at the heart of its project. This is because usability deals with adjectives that prioritize its use, such as effectiveness, efficiency, security, ease to use, and easy to remember. But information design goes beyond usability, as proposed by the Information Design Journal (IDJ), "to discuss and improve the design, usability and overall effectiveness of 'content put into form' – verbal and visual messages shaped to meet the needs of specific audiences" (Information Design Journal, 2004).

Information design is defined as the area of design that models the information on which the interactor will act. The action, therefore, is the expected response of the interactor to the information presented. The Brazilian Society of Information Design (SBDI, 2021) broadens the understanding of information design, attributing the configuration of the content and its definition and planning.

SBDI understands the informational need of the recipients as central to information design. Thus, it is verified that the value is in the interactor's objective in a specific situation and time and the possibilities of satisfying it. Therefore, information design can be investigated by designing a single element and the system in which it is inscribed.

The situation governs the objectives, which can be general or specific. For example, the interactor has the general aim of buying a bus ticket. At the same time, the specific objective is to choose the route, the day and time, and pay.

Time adds requirements to information modeling, as it determines the level of information processing in a given time interval. Traffic signals, for example, need to be interpreted and a decision made about them in a very short time.

The analysis of the information design in the interface seeks to verify how much the design of the elements supports the actions corresponding to the specific objectives. Thus, it is possible to analyze the quality of the representation of the graphic components that present the information and the narrative components that can satisfy the need generated.

Graphic components are concrete like shape, typography, color, and composition and therefore support usability and configure information. These components support action on information and, therefore, mastering action can be the dominant aspect of the agency.

Narrative components create meaning as they create a bridge with the interactor's mind map. These components foster mastering narrative, choosing space, and support the definition and planning of information. Therefore, it is argued that agency is the mode of involvement of the interactor with the information design of an interactive artifact.

5 Information Design as agency involvement

The agency involvement with the digital artifact can be analyzed by personal interest (the interactor's purpose), points of contact, and information processing. This second-order involvement is influenced by the disposition of the interactor, the medium, and the situation of use.

Information design is geared towards personal agency as it meets usability aspects. Thus, agency can be analyzed through progress in the course of events presented by spatial orientation and the construction of meaning in the sense of making a difference. Eichner estimates that personal agency spans four domains: mastering narrative, choice, action, and space. The analysis of the FlixBus website⁶ investigated these domains, as its structure is goal-oriented.

⁶ <https://www.flixbus.pt/>.
Emitente: FlixBus Mobility GmbH.

On this website, the personal agency is composed mainly of mastering action and, to a lesser extent, narrative. At first, the narrative is hard to identify on this website. But, as it is structured in goals, which are situated in the mental model of the activity, the narrative happens. In a narrative structure, the interactor understands his path in the text.

Therefore, mastering narrative evolves by recognizing the text with its appeal pattern that suggests exercising free movement in the rigid structure. The text genre is recognized as "purchase of tickets," and the mental model is formed. This narrative recognition, combined with the text proposal, evokes agency.

Thus, the FlixBus website corresponds to the mental model of buying tickets, offering the options of where, when, and how many seats (see Figure 1).

Mastering action is the obvious form of agency related to aspects of control and flow. Murray's (1998) definition also applies, where agency manifests itself by seeing the consequences of an action and has a clear haptic dimension.

In this sense, the form analysis, that is, of the graphic components, can highlight the textual markers that support the action and its derivation.

The dialog area is contrasted once data entry is started (see Figure 2). Contrast promotes focus of attention and control. Data entry is immediately reinforced by feedback in an optional filter that avoids error. This information is designed using color (see Figure 3).

One of the best qualities of information design is simplicity, manifested in this website by using a single font, few colors in a clear identity, contrast, hierarchy, and reinforcement or information icons

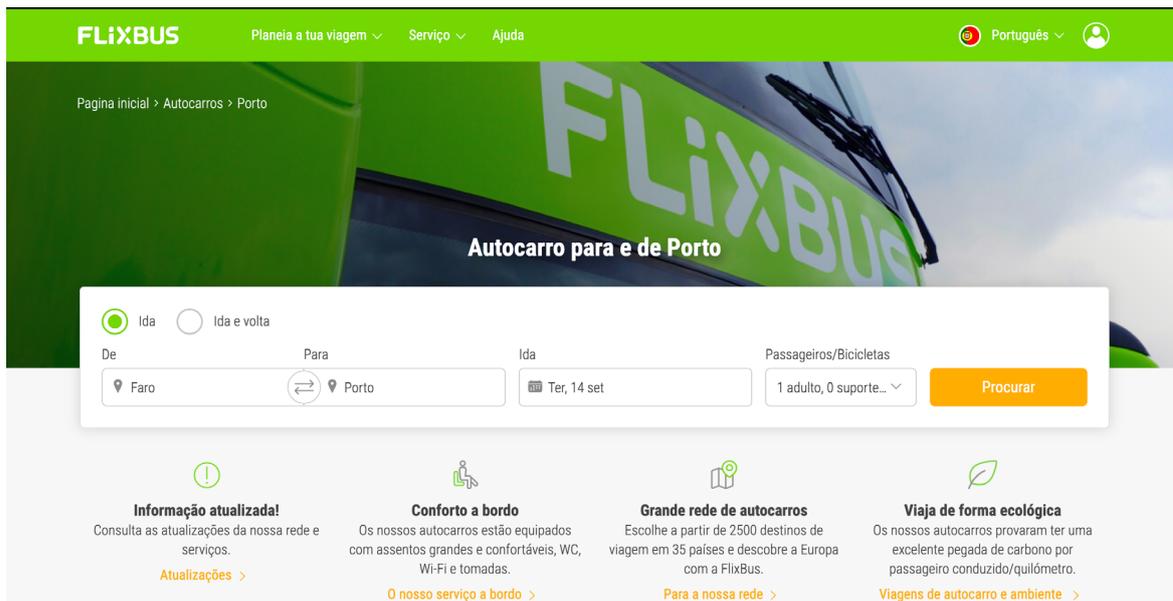


Figure 1 Screenshot of the FlixBus website homepage (Accessed on September 14, 2021. Retrieved from: <https://www.flixbus.pt/>)

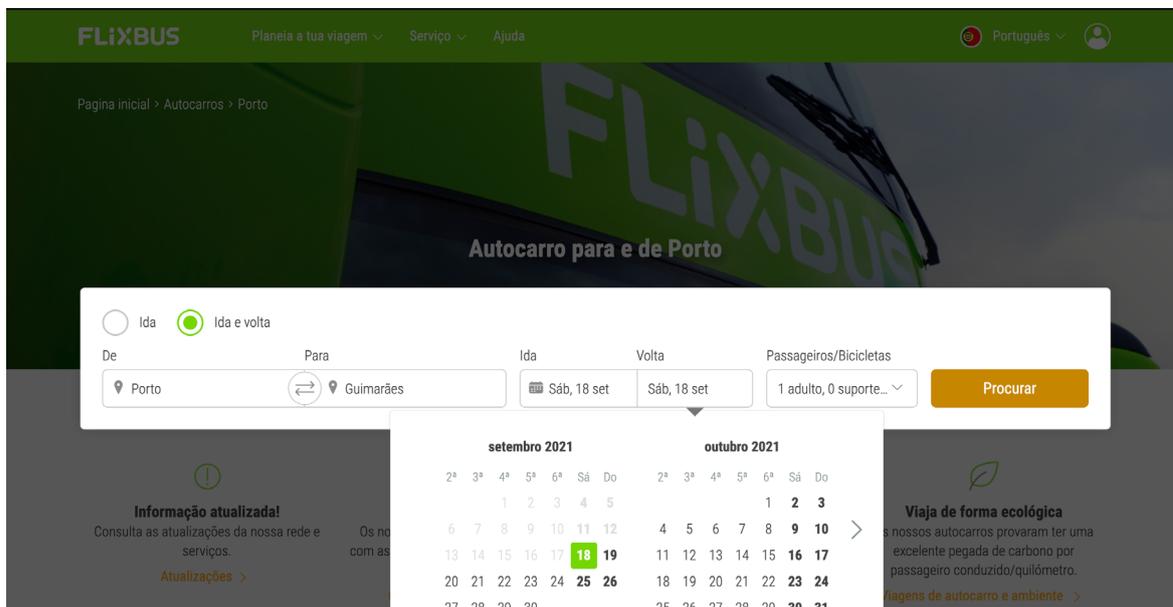


Figure 2 Detail of the action area highlighted on the FlixBus website (Accessed on September 14, 2021. Retrieved from: <https://www.flixbus.pt/>)

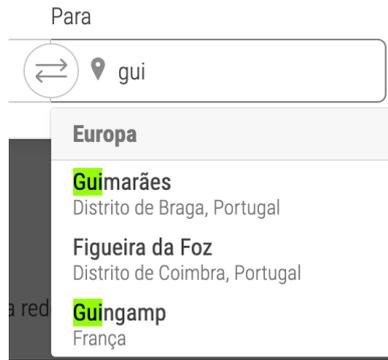


Figure 3 Feedback detail highlighting available options (Accessed September 14, 2021. Retrieved from: <https://www.flixbus.pt/>)

with explanation (see Figure 4). Simplicity promotes use without information processing overwhelm.

The payment page allows scrolling only in the area with a white background, where the additional options appear while the chosen trip remains fixed (see Figure 5). This structure reinforces control over the purchase. Once a new option is chosen, a horizontal tab is introduced. Horizontality establishes the immediate connection with the action, reinforcing the agency (see Figure 6).

The FlixBus website has a strong connotation of specific and clear action, as most interactors conclude their interaction with the artifact by purchasing a ticket.

But information design is present in most websites, even when the proposal is not focused on a specific action, as is the case with websites for disseminating places, services, products, or ideas. However, it is possible to imagine that the information design is punctual in elements aimed at an action that satisfies its informational need.

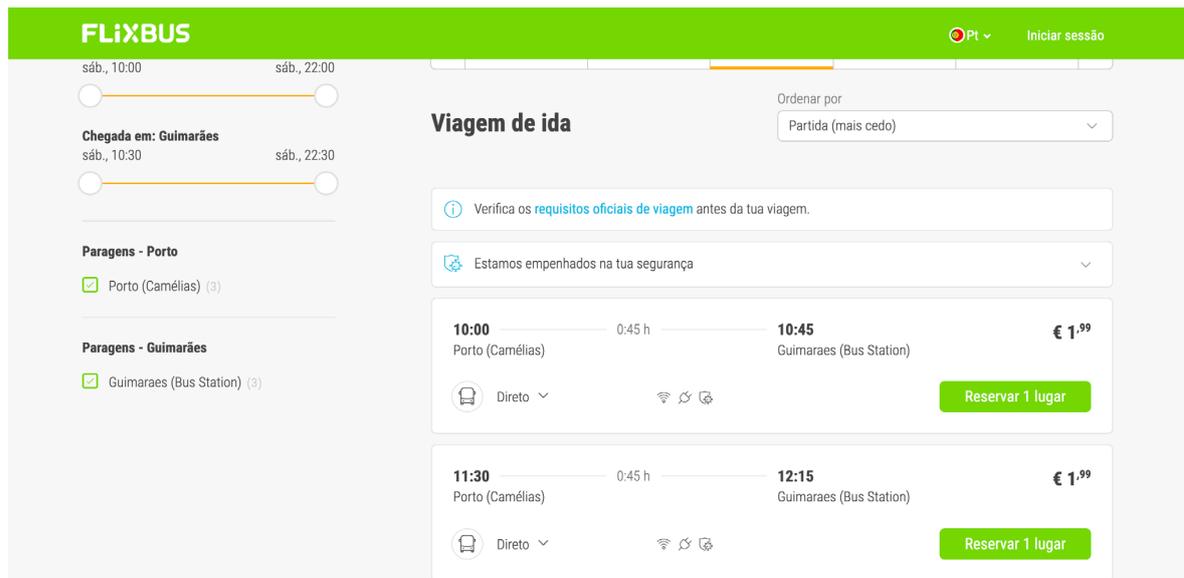


Figure 4 Screenshot of the one-way travel choice page (Accessed September 14, 2021. Retrieved from: <https://www.flixbus.pt/>)

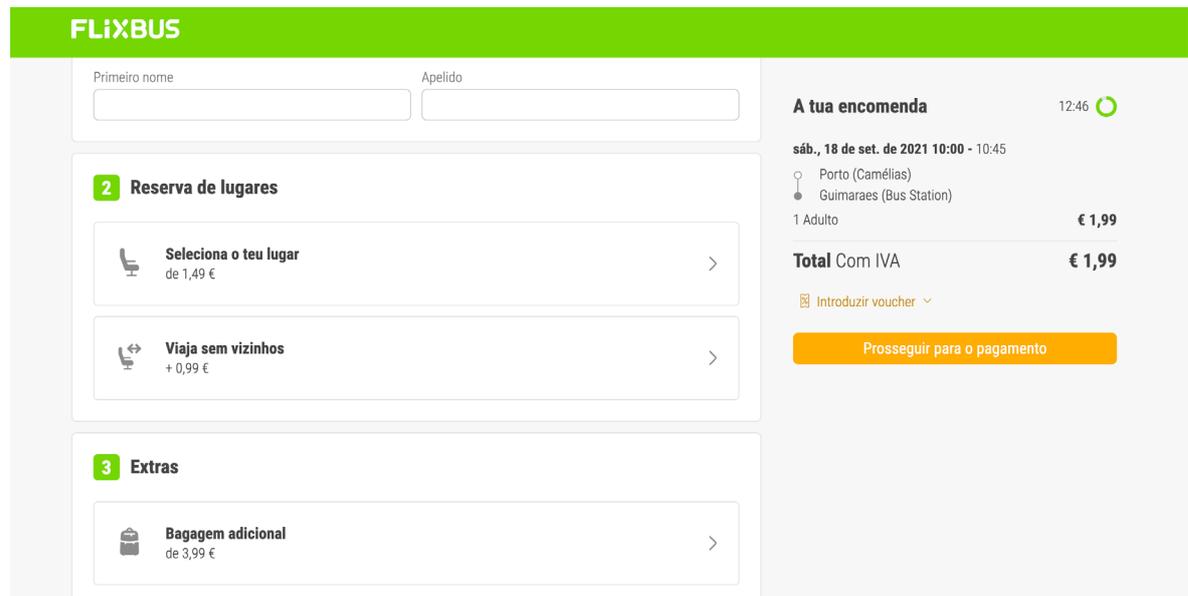


Figure 5 Screenshot of the payment page with a fixed gray area (Accessed September 15, 2021. Retrieved from: <https://www.flixbus.pt/>)

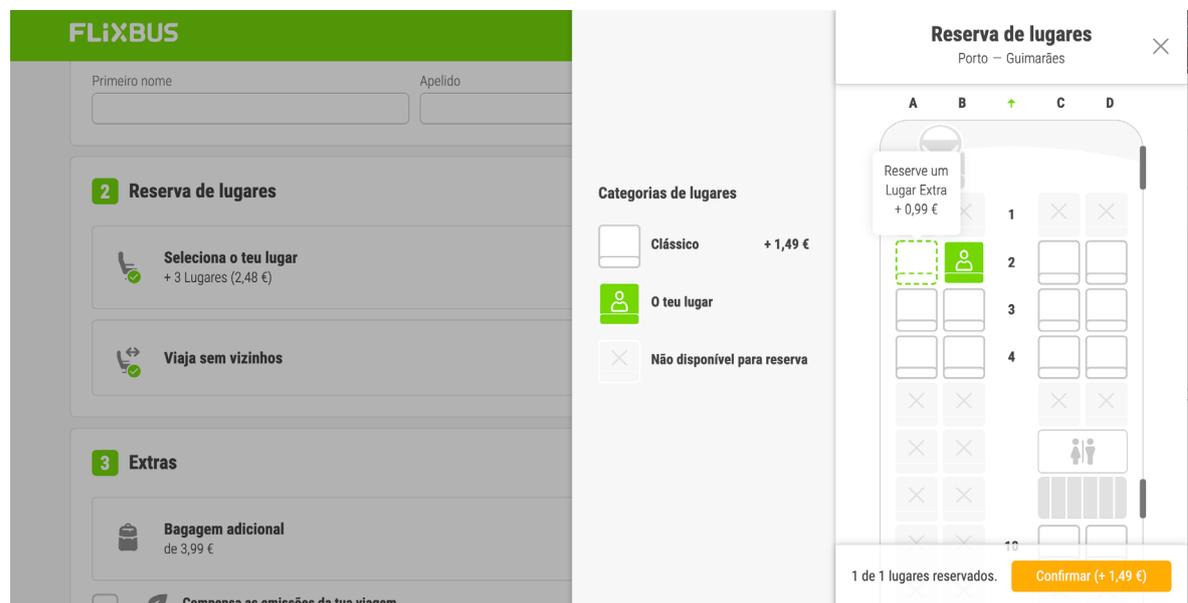


Figure 6 Screenshot of the seat reservation page with tab going horizontally (Accessed September 15, 2021. Retrieved from: <https://www.flixbus.pt/>)

7 <https://www.parquesdesintra.pt/pt/>

The website “Parques de Sintra: one journey, countless stories to be told”⁷ by Interactive Brands Agency received an honorable mention from the organization Awards.com in August 2021. For this reason, and as it deals with tourism in Portugal, its analysis supports the investigation of information design as agency involvement.

However, agency is a weak involvement in this case, as the website aims to provide immersive involvement. This involvement corresponds to the probable objective of the interactor to know the park. Therefore, the interaction design is expected to support the site’s exploration without highlighting a certain path to be followed.

By entering the Parques de Sintra website, the interactor is captured by the images and their micromovements (see Figure 7). The structure on a single page suggests a sequential reading, which fosters a narrative (Fadel & Bizzocchi, 2019). Touchpoints via links can be activated but are in the background.

Thus, agency can be analyzed through progress in the course of events presented by spatial orientation and the construction of meaning in the sense of making a difference.

The information design of these links highlights the point of contact by micromovements of the image by changing the color of the text or icon area by the lower stroke. These micromovements are activated by mouse-over, which requires the interactor to scroll through the page to find them. Feedback about the position of the image does not correspond to each image which makes the information confusing and therefore belittles mastering action and does not evoke agency. The top menu is not fixed, which further

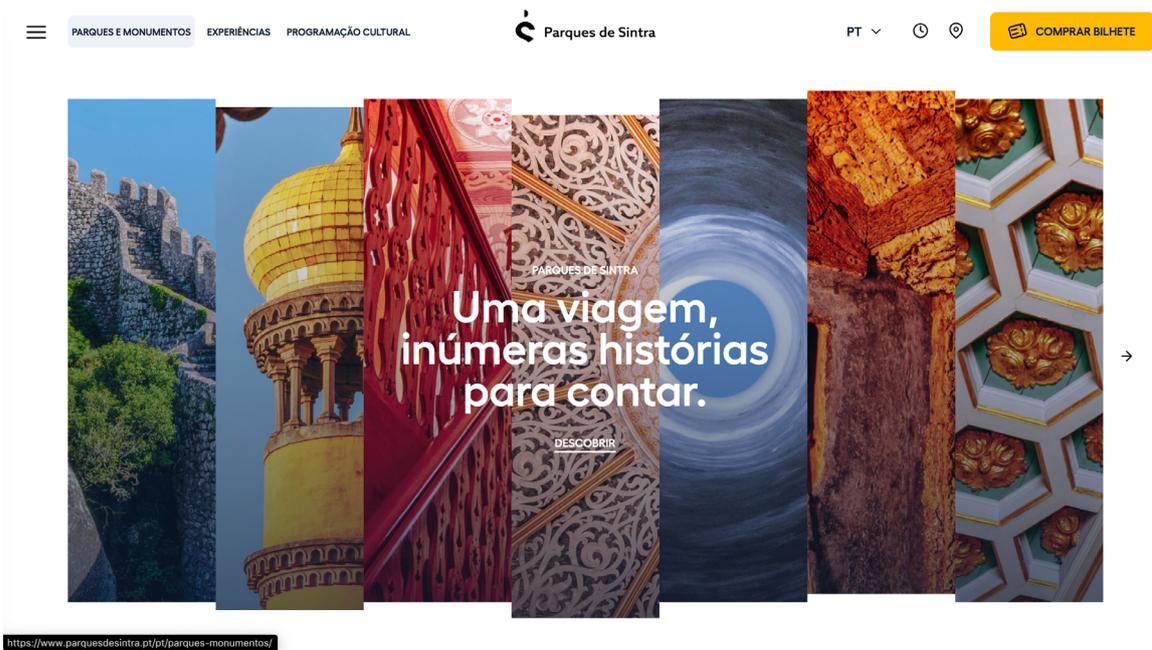


Figure 7 “Screenshot of the Parques de Sintra website homepage (Accessed on September 15, 2021. Retrieved from: <https://www.parquesdesintra.pt/pt/>)

instigates the exploration of the page and new touchpoints. Figure 8 shows the navigation arrows through the carousel images.

Figure 9 shows the link activated on mouse-over, which also instigates exploration. The movement of the mouse in sync with the text and the smooth zoom-in suggests the metaphor of opening the door to enter a place. The information design emphasizes identifying the specific place through a large font body and good contrast against the background. On the other hand, information about the building where this place is located has low legibility, which suggests that the interactor will have to make a greater effort to read.



Figure 8 Screenshot of the carousel images (Accessed on September 15, 2021. Retrieved from: <https://www.parquesdesintra.pt/pt/>)

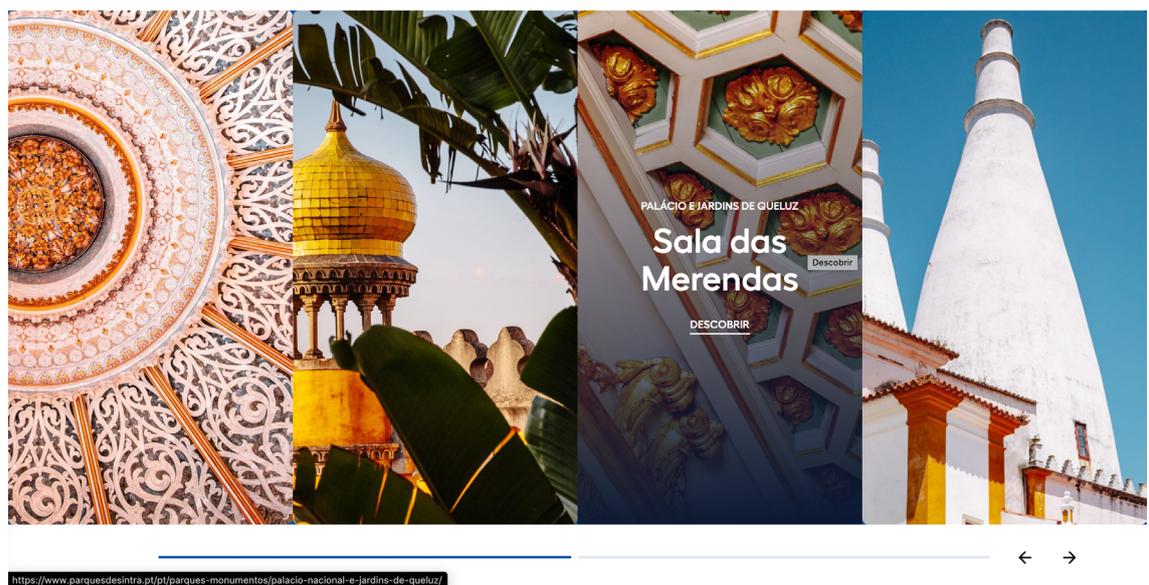


Figure 9 Screenshot of the parks and monuments links (Accessed on September 15, 2021. Retrieved from: <https://www.parquesdesintra.pt/pt/>)

6 Considerations

Information design brings information architecture, navigation design, and interaction design into existence. This materialization is presented at the contact points with the interactor, whether through links, data entry, interaction feedback, texts, or images, which support the action of the interactor. Thus, information design can foster agency.

Information design provides graphical elements to ensure mastering action using simplicity, contrast, feedback, error control, and icons. The FlixBus website presents a restricted path, allowing only a few actions within a predetermined and linear course. This approach can amplify agency by matching the interactor’s mental model over this linear course. The space for purchasing tickets is consistent and conveys the impression of significant actions (see Figure 10).

On the other hand, the interface design of the Parques de Sintra website encourages exploration and, therefore, the information design does not need to be evident. Here other dominant structures can better leverage the exploratory potential. The involvement likely evolves through immersion since the graphic and narrative qualities provoke the subjective feeling of “being there” in the virtual park of Sintra. The website seeks to produce a sensorially rich mediated environment through images, animation, and presentation on a single page. Agency, in this case, is little evidenced through mastering narrative, choice, and space (see Figure 11).

Hence, the argument that information design promotes agency involvement is based on the intention of this design to configure specific information to satisfy the informational need of the interactor. For Derr (1983), the informational need lies in the interchange

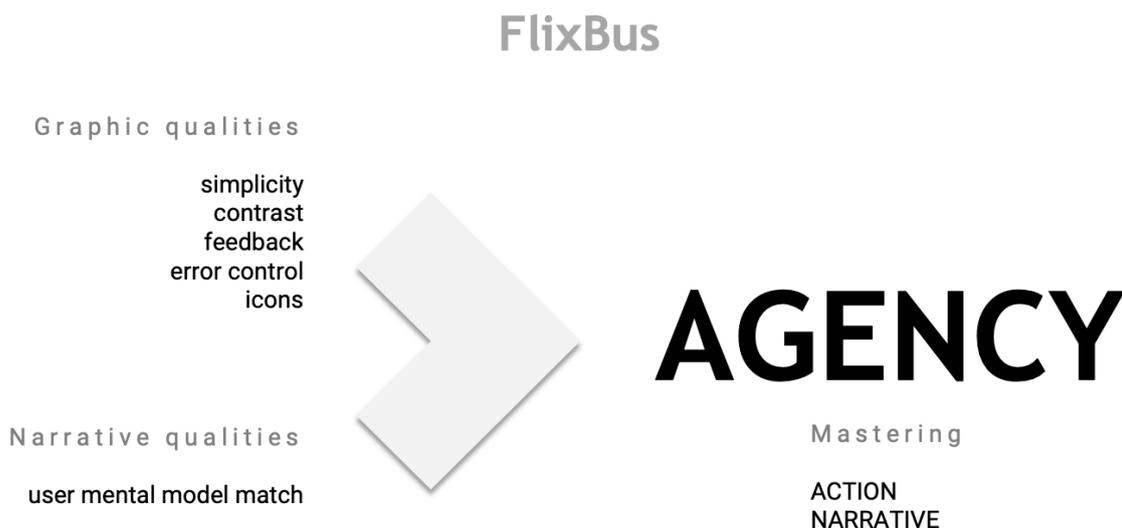


Figure 10 Synthesis of graphic and narrative qualities supporting the FlixBus website’s agency. Source: the author.



Figure 11 Summary of the graphic and narrative qualities that foster immersion. Source: the author.

between the interactor's purpose and how the information contributes to achieving it. So, the agency evolves when this reciprocity happens, mainly through mastering action. But also, mastering narrative, as these actions, to be meaningful, need to be in tune with the interactor mental model. This tuning is also defended by Mateas (2004) through the balance between material constraints (interface components) and formal constraints (interactor's purpose).

Therefore, the analysis of the information design seeks to verify how much the design supports the actions corresponding to the specific objectives. It is possible to analyze the quality of the representation of the graphic components that present the information and the narrative components capable of satisfying the need generated.

7 Conclusion

This paper approaches the agency as the primary mode of involvement with information design. We are particularly interested in the design of information in a digital interface. The design of an interface translates the specific qualities of the interaction design. Information design materializes the interaction that was interpreted in the form of dialogue.

We consider that the agency as a mode of involvement with the media can frame the dimension of information design in a digital interface. Information design tends to facilitate the entire scope of the agency in receiving this interface. Mastering action is most evident due to the haptic dimension of interactivity and its immediate effect on the interface.

An interface that features many interactivity features promotes self-efficacy. But agency goes beyond interactivity because it fosters

a feeling of having made a difference. Thus, agency is not about the number of clicks but their quality.

Agency is also the primary mode of involvement with other interfaces that prioritize informational needs, such as the Google Maps App. In this case, the graphic qualities, such as feedback, simplicity, and contrast, foster mastering action. In addition, the app highlights route options that support mastering choice.

While involvement encompasses all the processes and activities during the object reception phase, the interactor's experience needs to be self-reported. Furthermore, involvement is not synonymous with the interactor's experience but instead informs a possible experience. Thus, involvement evolves in the interchange of what the media offers and how the interactor appropriates this offer.

Also, not every object with the agency as the most prominent involvement is an example of information design. Games, for example, emphasize agency involvement, but information design is not a priority since finding information can be part of the game's challenge.

Nor do all objects whose information design is a priority have agency as their primary involvement. Editorial design, for instance, is very likely to foster immersion of character involvement.

Finally, considering agency involvement with the information design can help design the information in its concrete aspect. Thus, recognizing the importance of agency involvement can benefit both the analysis and production of information design.

Acknowledgment

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Finance Code 001.

References

- Ahearn, L. M. (2001). Language and agency. *Annual Review of Anthropology*, 30, 109-137. <https://doi.org/10.1146/annurev.anthro.30.1.109>
- Aristotle. (1920). *The poetics*. Great Britain: Claredon Press.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26. <https://doi.org/10.1146/annurev.psych.52.1.1>
- Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science*, 1(2), 164-180.
- Biocca, F. (1997). The cyborg's dilemma: Progressive embodiment in virtual environments. *Journal of Computer-Mediated Communication*, 3(2). <https://doi.org/10.1111/j.1083-6101.1997.tb00070.x>
- Coleridge, S. T. (1817). *Biographia Literaria, Chapter XIV*. University of Pennsylvania. <https://web.english.upenn.edu/~mgamer/Etexts/biographia.html>
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Perennial Modern Classics.

- Davidson, D. (1963). Action, reason, and causes. *The Journal of Philosophy*, 60(23), 685-700. <https://doi.org/10.2307/2023177>
- Derr, R. (1983). A conceptual analysis of information need. *Information Processing & Management*, 19(5), 273-278. [https://doi.org/10.1016/0306-4573\(83\)90001-8](https://doi.org/10.1016/0306-4573(83)90001-8)
- Dudley, E., & Haaland, A. (1993). *Communicating building for safety*. London: Intermediate Technology Publications.
- Eichner, S. (2014). *Agency and media reception: Experiencing video games, film, and television*. Potsdam: Springer vs.
- Fadel, L. M., & Bizzocchi, J. (2019). Designing background as space medium remediation. *Design Articles*, 27(1), 5-22.
- Frosh, P. (2019). *The poetics of digital media*. Medford: Polity.
- Garret, J. J. (2011). *The elements of user experience: User-centered design for the web and beyond*. Berkeley: New Riders.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Los Angeles: University of California Press.
- Gunning, T. (1990). The cinema of attractions. In T. Elsaesser (Ed.), *Early cinema: Space, frame, narrative* (pp. 63-70). London: BFI Publishing.
- Huizinga, J. (1944). *Homo ludens: Study of play-element in culture*. London: Routledge & Kegan Paul.
- Information Design Journal. (2004). In: John Benjamins: <https://benjamins.com/catalog/idj>
- Keppler, A. (2008). Media communication and social interaction: Perspectives on action theory based reception research. In K. Renckstorf, D. McQuail, J. E. Rosenbaum, & G. Schaap (Eds.), *Action theory and communication research: Recent developments in Europe* (pp. 103-114). Berlin: De Gruyter Mouton.
- Krippendorff, K. (2005). *The semantic turn: A new foundation for design*. Boca Raton: CRM Press.
- Laurel, B. (1993). *Computers as theatre*. Boston: Addison Wesley.
- Manovich, L. (2002). *The language of new media*. London, England: The MIT Press.
- Martínez-Silveira, M., & Oddone, N. (2007). Necessidades e comportamento informacional: Conceituação e modelos. *Ciência da Informação*, 36(2), 118-127. <https://doi.org/10.1590/S0100-19652007000200012>
- Mateas, M. (2004). A preliminary poetics for interactive drama and games. In N. Wardrip-Fruin, & P. Harrigan (Eds.), *First person: New media as story, performance, and game* (pp. 19-33). Cambridge: MIT.
- Murray, J. H. (1998). *Hamlet on the holodeck: The future of narrative in cyberspace*. Cambridge: MIT Press.
- Murray, J. H. (2011). *Inventing the medium: Principles of interaction design as a cultural practice*. Cambridge: MIT Press.
- Reckwitz, A. (2002). Toward a theory of social practices a development in culturalist theorizing. *European Journal of Social Theory*, 5(2), 243-263. <https://doi.org/10.1177/13684310222225432>
- Richards, C. (2000). Getting the picture: Diagram design and the information revolution. *Information Design Journal*, 9(2/3), 87-100. <https://doi.org/10.1075/idj.9.2-3.01ric>
- Ryan, M.-L. (2006). *Avatars of story*. Minneapolis: University of Minnesota Press.
- SBDI. (2021, August 9). In Sociedade Brasileira de Design da Informação (SBDI), Brasil. <http://www.sbdi.org.br/definicoes>

- Sharp, H., Rogers, Y., & Preece, J. (2018). *Interaction design: Beyond human-computer interaction*. Indianapolis: John Wiley & Sons.
- Silverman, H. J. (1986). What is textuality? *Phenomenology + Pedagogy*, 4(2), 54-60.
- Spinillo, C. G. (2000). *An analytical approach to procedural pictorial sequences*. [Doctoral dissertation, The University of Reading].
- Stercken, M. (2015). Medial experiments exploring cultural practices in premodernity. *NCCR Mediality Newsletter*, 14, 10-19.
- Steuer, J. (1993, October 15). Defining virtual reality: Dimensions determining telepresence. *Social Responses to Communication Technology*, 1-25.
- Tanenbaum, K., & Tanenbaum, J. (2009). *Commitment to meaning: A reframing of agency in games*.
- Wardrip-Fruin, N., Mateas, M., Dow, S., & Sali, S. (2009). Agency reconsidered. In *DIGRA 09* (pp. 1-9). London: ETC Press.
- Weber, M. (1978). *Economy and society*. Los Angeles: University of California Press.
- Wogalter, M. S., Dejoy, D., & Laughery, K. (1999). Organizing theoretical framework: A consolidated communication-human processing (C-Hip) model. In M. S. Wogalter, D. Dejoy, & K. Laughery (Eds.), *Warning and risk communication* (pp. 15-23). London: Taylor & Francis.
- Zimmerman, E. (2004). Narrative, interactivity, play, and games. In N. Wardrip-Fruin, & P. Harrigan (Eds.), *First person: New media as story, performance, and game* (pp. 154-164). Cambridge: MIT Press.

About the authors

Luciane Maria Fadel

liefadel@gmail.com

Universidade Federal de Santa Catarina
Florianópolis, SC, Brasil

António Coelho

acoelho@fe.up.pt

Universidade do Porto
Porto, Portugal

Submission date/*Artigo recebido em*: 29/5/2022

Approval date/*Artigo aprovado em*: 6/6/2022