The Strategic Use of Smartphone Features to Create a Gaming Experience of Mystery: The Mind Alone Case

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Abstract. In the present work, we discuss the creative process behind the Brazilian mobile game Mind Alone (Sioux Games, 2018). We start our discussion with a brief overview of mobile media and the Brazilian gaming market, in order to clarify why mobile games are a rich field to explore in this country, and to assess some aspects of the Brazilian gamer audience. After this introduction, we proceed to expound the main features of the game Mind Alone, aiming to finally put forward some ideas about strategic thinking in game design, game writing, and puzzle design, emphasizing the need of multidisciplinary thinking. This article recounts the whole creative process behind Mind Alone, highlighting some main phases: 1) brainstorming, including interviews with the production team at the Sioux company; 2) documentation, analyzing the "high concept template"; 3) production, elucidating the interface between art and coding (and how to merge smartphone features to create the game experience); and 4) beta-testing, comprising guidelines for a qualitative session. With this work, we intend to depict the full development of a mobile game, from brainstorming to publishing and documentation. It is important to highlight, in this context, that the author of this article was the game designer responsible for Mind Alone's mechanics and narrative.

Keywords: Game Design, Mobile Game, Puzzle Design, Mind Alone, Brazil.

1 Introduction

Mobile media and entertainment can be regarded as leading and intertwining milestones in the contemporary culture. In the light of this fact, we discuss herein a relevant issue concerning the processes of game design and puzzle creation. The lines between near and far, public and private, work and leisure, online and offline are becoming increasingly blurred by the disseminated use of countless mobile gadgets with wireless and fast-track connection to the internet, and also by the use of more traditional modes of access. The impressive rates of social appropriation of communication and information technologies entail changes in the way we live, get together, do business, and, of course, have fun—which happens in different kinds of "playgrounds" that we come across in our daily lives, according to Bogost [1].

While acknowledging the prominence of these "playgrounds"—in which the idea of "mass self-communication", as proposed by Castells [2], poses new challenges to the comprehension of current modes of sociability, entertainment and consumption—, we

are going to focus our attention on the mobile game Mind Alone (2018), developed by a Brazilian studio named Sioux.

However, before opening the main discussion, focusing on the game design and the production of this title, it is important to contextualize the gaming market scenario in Brazil. A key aspect that must be understood is why mobile games may work as a strategic entry point for Brazilian companies to get into the global gaming market.

2 A Word About the Brazilian Gaming Market

The Brazilian gaming market is full of opportunities and peculiarities. The country is well-known abroad for being an emergent field where new game ideas can be explored, and also for its high levels of piracy, unfortunately. In a certain way, the country is a unique "ecosystem" where different business models and creative processes can be explored, given the size and the diversity of its population, of almost 220 million people.

The gaming industry in Brazil is not consolidated though, and under many aspects it is still in an initial stage. As a first step into our discussion, we can highlight some attributes of the Brazilian gaming market, using as reference the data collected in an important survey named Game Brazil Research 2018 [3] (*Pesquisa Game Brasil 2018*, in Portuguese), conducted by the company Sioux Games, which has published the game Mind Alone, our object of study in this essay.

In its fifth edition, the research comprised interviews with 2853 people, in an attempt to investigate some demographic, consumption and behavioral aspects of the Brazilian gaming field. The first information we need to highlight is the fact that 75.5% of the Brazilian population plays games in a wide range of platforms, like smartphones, tablets, computers, consoles, portable consoles, etc.

According to this research, the gamer audience in Brazil is mainly cross-platform, with 74% of players experiencing games on more than one device. Smartphones lead the numbers as the most popular gaming platforms in Brazil (37.6%), while consoles occupy the second place (28.8%), followed by computers, in third place (26.4%).

Another interesting piece of information from Game Brazil Research 2018 concerns the self-image of the Brazilian gamer audience: only 6.1% of the respondents considered themselves to be "hardcore" gamers. Most of the interviewed people identified themselves as casual gamers.

It was also remarkable, in the research about mobile games, that 60.7% of respondents said they played while in transit (bus, subway or car).

Finally, it is noteworthy that 53.6% of Brazilian gamers are women, and among the female audience the favorite platform is mobile (59%), in which they spend an average of one to three hours a week playing games.

From these preliminary data, it is possible to understand that Brazil is a fertile ground for mobile games and a place with high potential for new gaming business in this field. To reinforce how relevant the mobile platform is for games in Brazil, we can bring to our discussion the game entitled Horizon Chase (Aquiris, 2018). This game was the

first Brazilian game launched for Playstation 4, in Blu-ray disc format. However, it had been previously launched for smartphones and tablets.

There are no massive game publishers in Brazil yet, and mobile platforms like App Store (Apple) and Play Store (Google) constitute interesting opportunities for game designers, indie studios and small gaming companies to showcase their work, in Brazil and abroad.

Based on this initial information, we will discuss, in the next topic, this article's object of study: the mobile game Mind Alone.

3 Mind Alone: A Mysterious Narrative for Mobile Devices

As we have already said, Mind Alone is an indie mobile game created and published by the Brazilian company Sioux [4]. It is a non-competitive single-player game. The player embodies the role of a character trapped inside his own mind. It is impossible to say whether they are dreaming, lying in a coma or dead. To find the answer for this mystery, the player must solve a series of puzzles, each portraying a memory that offers a hint of what happened. The memories start back in the character's childhood and advance until the present day. The player must solve all the puzzles to reach the threshold of the character's consciousness. In order to unriddle these enigmas, it is necessary to use most of the smartphone's features (gyroscope, internet connection, multi-touch screen, voice recognition, vibration) [5].

Gaming mechanics are essentially puzzle-based, following some methodologies proposed by Adams [6], about how to create effective enigmas. One special feature of the game is the interface, which was built using mainly alphabetical characters. In Mind Alone, the narrative and mechanics walk side by side to create the ambience of mystery and terror. In this game, according to Ince's thoughts [7], "story, dialogue, character profiles, etc. should all be created in a way that adds to the design of the gameplay".

Another aspect to be highlighted in Mind Alone's experience is that the game uses smartphone and tablet features to give life to the gameplay, as we discussed in the beginning of this topic. Some puzzles are solved using multi-touch on the screen, others lead the players to put the device upside down, or shake it, causing elements to move in the interface; in another case, the player must use their voice to activate a command, and there is even a transmedia puzzle that requires players to access a blog [8] in an internet browser, in search for an answer left by the game character.

Below, we display some print screens of Mind Alone's interface. As seen in Figure 1, Mind Alone uses minimal elements to create its gameplay. The starting screen is one of the few parts of the game that use an image of a skull x-ray. All the other screens use only alphabetical characters. In the second print screen, there is a puzzle where we can read: "There was a big box full of toys on top of the shelf in my room. I loved to scatter the toys across the floor." The solution for this puzzle consists in tilting the smartphone or tablet 90º to move the BOX element toward the FLOOR element. In the third print screen, we can see another puzzle that says: "Our house was far away from the city and I liked to watch the stars in the sky. I pointed my finger to the distant small dots to

create bigger stars.” The solution is to touch the screen in the right sequence to transform the small dots into a big star. This is the core dynamics of Mind Alone: fixed screens with an enigma that, when solved, creates a button to the next.

Figure 1. The left image shows Mind Alone’s opening screen. The center and right images show two examples of puzzles created with alphabetical characters.

Based on this overview of Mind Alone, we will discuss, in the next topic, the main subject of this article: the complete game design process, emphasizing documentation, beta-test qualitative interviews, some ideas about puzzle design, and how narrative must hybridize with gameplay in this scenario.

4 From Brainstorming to The Published Product: A Practical Approach for Mobile Game Designing

4.1 Game Design Process

In this topic, we emphasize the most relevant parts of Mind Alone’s game design project. It is essential to follow logical steps, even in a simple puzzle mobile game, in order to establish a coherent integration among the different professionals working in the project (game designer, artist, programmer, and project manager).

Following the thoughts of Fullerton et al. [9], Mind Alone used a very synthetic game design process based on stages. The **first step** is the conceptual stage, when the narrative and the core gameplay are defined, based on intense research to check other similar games already published. The **second step** proposed by Fullerton is the brainstorming stage, in which people involved in the project start the first essays about how the narrative will materialize on the gaming interface. When these ideas are established, there comes a fundamental **third step**: the making of a prototype (or pre-prototype) of

the game. In this phase, it is very important to save time by creating a fast pre-visualization of the game using paper, pen and other analog components, or assembling a digital prototype for a fast beta-test play, as we can see in Figure 2.

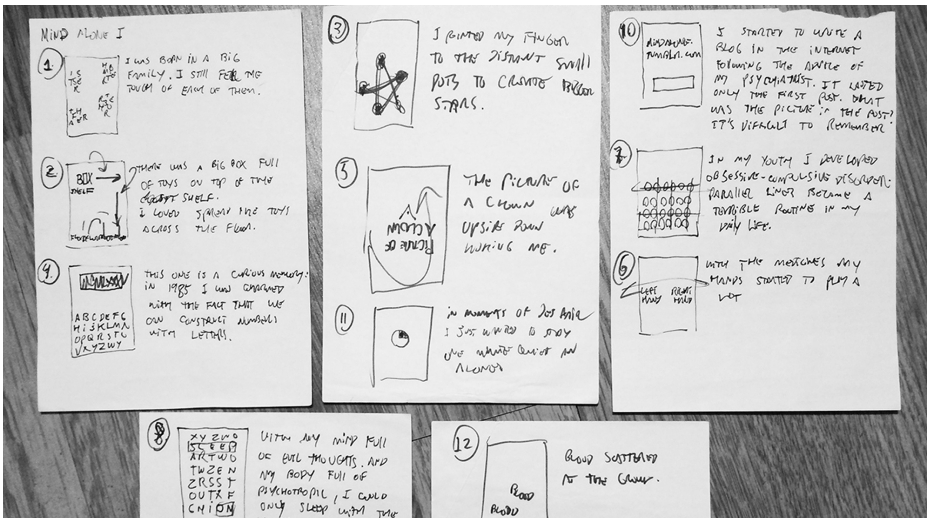

Figure 2. Mind Alone's puzzle studies and analog pre-prototypes.

In the **fourth stage,** there is the challenge to establish the initial concepts of the interface. As we already discussed and saw in Figure 1, the gaming interface was created using only alphabetical characters. In this case, most puzzle solutions come from the user's interaction with the text characters, so this is a part of game design that is central to the connection between gameplay and what the player is watching on the screen. For Mind Alone, Photoshop was an excellent tool to create interface studies that were used in the first prototypes.

The **fifth phase** is digital prototype and its test stage: with the mechanics and first layouts previously defined, it is possible to develop a simple version to be played on browsers or smartphones. The example below (Fig. 3) provides a better understanding of the relationship between gameplay and interface: there is a puzzle that starts with the text, "With my mind full of evil thoughts and my body full of psychotropic pills, I could only sleep with the lights ON. Fear and anxiety were my companions at that time." The player can see mixed characters on the screen. The word "ON", capitalized in the text, is a hint, and if the player touches the interface near the word "ON", in the mixed grid of characters, there is a subtle trembling to indicate a solution is near. If the player touches the word "ON", the interface will simulate lights on, by becoming white. An arrow will appear on the central superior part of the screen, indicating that the puzzle is finished, and the player can advance to the next one.

In this fifth stage, it is possible to start the beta-testing sessions with different kinds of players. For Mind Alone, the team at Sioux used a fast qualitative research approach after play tests. The research followed some ideas proposed by Cote and Raz [10],

which consist in: (1) creating an introductory script to open the interview and recalling the study goals; (2) using warm-up questions to put the participant at ease and build rapport (e.g. “For how long have you been playing videogames? What is one of your favorite gaming memories?”); (3) using substantive questions to collect deeper data that validate the research hypothesis (this part is crucial to the interview, because it is when players will give feedback about gaming interface, mechanics and other aspects); and (4) using demographic questions to gather data needed to describe participants in the final research report.

Figure 3. Mind Alone’s puzzle example in the final interface.

The **sixth phase** is the production stage, in which feedback provided by beta-testing sessions of the digital prototype is used as the main information source to orient the production of the final version of the game.

The **seventh phase** is the evaluation stage, carrying out final tests to assure the game is error-free.

Finally, there is the **eighth phase**, which consists in the launching stage, the moment that the publisher, Sioux, made the game available for download in mobile platforms (Android and iOS).

It is important to highlight that, during this whole process, the game was documented using specific files. In case of huge “triple A” games, it is possible to find a game design document with hundreds of pages. In Mind Alone’s case, the team decided to register the gaming process in a high concept document that we are going to discuss ahead, in the next topic.

4.2 Documentation Using a High Concept Document

An essential part of any game design project is to register the main ideas and features of the game. For Mind Alone, Sioux Games used, with slight modifications, the "High Concept Document" model proposed by Adams and Rollings [11]. This document has already been shared with the Brazilian game designing audience [12], in another context. Still, it is important to include this content here, in order to highlight the relevance of documentation in the game designing process.

To register a gaming project is to create a guide and a reference for future games. These could be excellent tools to present the game for investors or to explain central ideas in a contest or gaming award. Another excellent use for this document is to have it as study material in game design classes. Below, we present the high concept document elaborated during the game design process.

•**Title of the game:** Mind Alone
•**Team:** Vicente Martin Mastrocola (game design, sound design, information architecture); Gabriel Romano (user experience, Unity programming); Guilherme Camargo (business model; planning strategy).
•**Publisher:** Sioux
•**Country and year:** Brazil (São Paulo), 2018
•**Game summary:** Mind Alone is a non-competitive single-player game based on plot, or story-related. The player embodies a character trapped in his own mind. It is impossible to say if they are dreaming, lying in a coma or dead. To reach the answer for this mystery, the player must solve a series of puzzles; each puzzle is a memory that offers hints on what happened. The memories start in the character's childhood and advance until the present days. The player must solve all the puzzles to reach the surface of the conscience. Mind Alone is an authorial game and does not demand special licenses.
•**Gaming references:** The Witness (Thekla Inc., 2016); Dark Room (Doublespeak Games, 2013); Lifeline (Three Minute Games, 2016); games focused on narrative features, with a clear invitation for players to become "co-creators" of the plot.
•**Player's motivation:** the character needs help to wake up from the prison of their own mind, in which they are confined, within an infinite loop of disconnected memories. Players must solve the puzzles, which have different difficulty levels, in order to reach the surface of conscience.
•**Keywords:** puzzle game; mystery; terror; enigma; mobile, transmedia; immersive; narrative
•**Target audience:** 16+ year-old players, fans of puzzle/enigmas, escape the room games, and horror/terror literature.
•**Highlights:** 95% of the game was created using only alphabetical characters combined with interesting artistic interfaces. Freeware. Some puzzles offer transmedia features, inviting players to explore blogs and sites. Fast.
•**Platform:** mobile game developed for the iOS and Android systems (created with Unity programming).

•**Game design goals:** the dark/mysterious narrative and the puzzle-based gameplay offer the players an experience of immersion, fear and tension. Thought-provoking puzzles are generated using simple interfaces.
•**Music and sound design:** dark ambient soundtrack with incidental sounds (doors opening, moans, screams, piano notes, etc.) Some sounding references come from artists like Richard Rich and Lustmord.
•**Business model:** freeware. The purpose of the game is to represent the Sioux studio in game design contests, festivals and gaming fairs. As a freeware game, another purpose of Mind Alone is to be studied in game design classes.
•**Mechanics examples:** Mind Alone uses various smartphone features to build its gameplay. There are puzzles that use touch screen, assembly of elements, movement of the device (detected by accelerometer and gyroscope), and puzzles with textual responses.

In the next topic, we highlight a most important part of the game design process of a game like Mind Alone: puzzle creation.

4.3 Puzzle Design

Ernest Adams, in his book *Fundamentals of Puzzle and Casual Game Design* [6], teaches some methodologies to create immersive and intelligent enigmas for games of different natures. In his text, Adams references the work of Scott Kim, a puzzle designer who formulated the idea of "eight steps to create a good puzzle". These eight steps were a central inspiration for the Mind Alone project and deserve to be shared in this article.

The first step proposed in this model is to find inspiration. It sounds obvious, but it is an essential part of the process. Solving lots of puzzles could be a great source of inspiration, but to search for ideas in other fields is also an interesting way of creating enigmas. Literature, movies, comics, toys and TV series are some examples of where to find inspiration.

The second step is considered to be a mantra in game design: "keep it simple". After creating the main idea of a puzzle, it is important to remove any excess. Exploring the features of the platform (console, board game, mobile media, etc.) can give you creative solutions for puzzle design. In Mind Alone's case, the team studied many possibilities of using different smartphone/tablet features to create a puzzle-based gameplay.

Prototype and fail fast constitute the third step. Once we have a promising idea on our minds, we need to construct models (analogical or digital) and test this initial version. Here, it is important to test the prototype with the project's team, but it is also crucial to test it with the very first beta-testers.

The fourth step consists in defining the rules. Adams [13] says that rules are "the key part of puzzle design" and reinforces that most puzzles are defined in terms of four elements: the board (or the space where the action occurs), the pieces (gears, gems, stones, levers, screens—the elements with which the player will interact); the moves (sequences of movements, simultaneous moves—what is allowed and what is not and what the side effects there are); and the victory condition (how players win the challenge).

Building the puzzles is the fifth step. When the mechanics is ready and functional, it's time to create the final version of the puzzle (analogical or digital). Here, we need to pay attention to the first aesthetical details, to information architecture and to providing clear instructions for the player.

The sixth step is to test the final version in order to achieve the desired outcome. Call new beta-testers and also use the first ones.

The seventh step is about devising a sequence: in a game with many puzzles—or many levels with puzzles—it is advisable to create a logical order for them. Increasing difficulty with some hints between the challenges is an interesting way to keep the player engaged in the gaming experience. As Koster [14] reminds us, the most immersive puzzles "are the ones that force the most self-experimentation. They are the ones that challenge us most deeply on many levels: mental stamina, mental agility, creativity and perseverance."

The final and eighth step is: pay attention to presentation. Sounds, graphics and other details will make the difference in the puzzle experience. A good puzzle enclosed in a poor layout could be terrible for the players. In Mind Alone, all the puzzles were created using textual characters and it forces a player's mind to imagine the situations behind the mystery. This is a relevant aesthetical component for this game and it invites the players to use their creativity to get a more immersive experience.

In the next topic, we will discuss briefly other details about the project Mind Alone, presenting some opinions from the team at Sioux Games. We intend to bring to this article some ideas about business model and the interface between gameplay and coding.

4.4 Some Words from the Team at Sioux

In this topic, we bring some thoughts and comments from the crew at Sioux, regarding the game Mind Alone. Fundamentally, we share some in-house information to serve as inspiration for anyone who would like to develop independent mobile games.

As it was said in the abstract, the author of this article is the professional responsible for information architecture, game design and narrative in Mind Alone. These aspects were previously discussed in this section. However, there are two important opinions yet to be mentioned here, regarding business model and code programming.

Guilherme Camargo, CEO at Sioux Games, says that even a freeware game like Mind Alone could be profitable in many ways. For Camargo, games like this allow the studio to explore new mechanics and reach new audiences. Sioux works mainly with gamification and advergames projects, and an independent, experimental entertainment game like Mind Alone offers new possibilities for the company, like the participation in gaming festivals[1], the study of the game in game design classes[2] or the creation of a stronger presence in specialized media by showcasing a differentiated product. Sioux's CEO defends that it is important for a game company to try new languages and concepts

[1] In December 2017, Mind Alone participated in the *Game On* festival, in Buenos Aires (Argentina), receiving good reviews from the local media.

[2] During the year of 2018, Mind Alone was studied as a game design case, in the discipline Game Essentials, which is part of the IT course at ESPM College.

in upcoming projects. Even a game launched to reach a small audience could mean a step further toward building a broader audience for future projects.

Gabriel Romano was the programmer responsible for giving life to Mind Alone in the screens of smartphones and tablets, on Android or iOS platforms. Romano, in an interview about the game [15], said that he opted for Unity because of the flexibility of the language. The community on the web is very collaborative and it is possible to find solutions for coding problems very fast, when using this open-source language. Romano also says that, in a project like Mind Alone, it is fundamental to receive a detailed document and a prototype from the game design professional. Based on these insights, he was able to program the puzzles with more accuracy and less errors. According to the programmer, each puzzle in Mind Alone is unique. In many games, the designers develop the mechanics and later comes the work of level constructing, based on these mechanics. However, in Mind Alone, Romano explains that, for every puzzle, he studied how to activate certain smartphone or tablet features, during the creation of the eighteen stages of the game.

The most important things to highlight here are the dialogue among all the team and a well-defined chronogram to create a multidisciplinary workflow. With all the teams' minds aligned, Mind Alone was created, tested and produced in six months.

Below, we discuss some final ideas.

5 Final Thoughts and Conclusions

In this article, we had the opportunity to discuss a complete game design project for mobile platform. Despite being a free mobile game, Mind Alone is an important tool for Sioux studio to showcase their work and participate in game designing contests and gaming fairs. The game is also a relevant case to be studied in classrooms and it fosters discussion about how independent, experimental/artistic games can be created. Furthermore, it allows us to digress on how the gaming industry is plural in this sense. The strategy of distributing a free game may guarantee other forms of profit, like posts in specialized gaming websites, discussions in academic articles, prizes in gaming contests, etc. It is worth reinforcing that, for a game company, it is essential to explore new languages and always offer different products to the audiences, in order to keep them engaged.

We understand that, more than ever, creating a mediatic product like a game requires multidisciplinary work and research, so that a compelling form of entertainment can be offered to different types of players. As Flanagan [16] points out, videogames are today legitimated as "forms of media, human expression, and cultural importance". This way of thinking offers some answers about how broad the gaming industry became in the last 40 years.

There is evidence that never before have individuals pursued ludic experiences so much, looking forward to having some moments of detachment from their chaotic quotidian experiences, from the pressure of multiple working hours, or the accelerated routine of big urban centers. To some extent, people are trying to reach places of catharsis,

where dreaming and fiction offer a way to escape, and mobile platforms (like smartphones) take the lead in this setting. Based on Huizinga's [17] thoughts, people are searching for different "magic circles" in the landscape of daily life. All the time, people are resigning trivial things from their lives and games are protagonist in this scenario; games are full of meaning in this sense and the time dedicated to entertainment becomes a "sacred" time for many audiences.

It is important for companies like Sioux, or even independent studios, to understand how these moments in a "magic circle" occur in the quotidian of certain audiences, so that these moments can be explored through entertainment products like games.

By discussing the creative process, game/puzzle design and the business model structuration of Mind Alone, we hope to demonstrate the strength of the relationship between players and gaming companies in the contemporary digital gaming ecosystem. We claim it is of utmost importance to use a methodological process, even for small productions. We have been able to assess the importance of working with a consistent methodology and can thus envision the iterative process applied to bigger projects. We hope we can contribute to the field of gaming studies and that this paper fosters the development of future projects and inspires new relevant discussions.

The Brazilian gaming market, emergent as it is, reveals itself as a privileged ambient in which these game design processes can be observed. We welcome the opportunity to present this relevant discussion as a means of contributing to the ongoing efforts in exploring the gaming market in contemporary culture. For the best comprehension of this article's content, we invite all the readers to download Mind Alone and experience its narrative and puzzles.

References

1. Bogost, I.: Play anything: the pleasure of limits, the uses of boredom, & the secret of games. Basic Books, New York (2016).
2. Castells, M.: Communication Power. Oxford Press, Oxford (2009).
3. Game Brazil Research Homepage, https://www.pesquisagamebrasil.com.br/, last accessed 2018/11/17.
4. Mind Alone Play Store page https://play.google.com/store/apps/details?id=br.com.sioux.mindalone and App Store page, https://itunes.apple.com/us/app/mind-alone/id1380456174?mt=8, last accessed 2018/11/17.
5. Mind Alone Teaser Trailer on YouTube, https://youtu.be/shtMQcjxPjI, last accessed 2018/11/17.
6. Adams, E.: Fundamentals of puzzle and casual game design. Pearson, San Francisco (2014).
7. Ince, S.: Writing for video games A & C Black Publishers Limited, London (2006).
8. "I'm old for this" blog, http://imoldforthis.blogspot.com/, last accessed 2018/11/17.
9. Fullerton, T., et al.: Game design workshop: a playcentric approach to creating innovative games, pp.15-16. Morgan Kaufmann Publishers, Burlington (2008).
10. Cote, A., Raz, J.: In-depth interviews for game research. IN: Lankoski, P., Björk, S. (Eds.). Game research methods: an overview. pp.93-117. ETC Press, Halifax (2015).
11. Adams, E., Rollings, A.: Fundamentals of game design, p.63. Pearson Prentice Hall, New Jersey (2009).
12. Mind Alone: an experimental mobile game post, https://gamingconceptz.blogspot.com/2017/12/mind-alone-experimental-mobile-game.html, last accessed 2018/11/17.

13. Adams, E.: Fundamentals of puzzle and casual game design. p.10. Pearson, San Francisco (2014).
14. Koster, R.: A theory of fun for game design. p.152. Paraglyph Press, Arizona (2005).
15. Mastrocola, V.: Level hard: criando, produzindo e pesquisando games no Brasil. Autografia, Rio de Janeiro (2018).
16. Flanagan, M.: Critical Play—Radical Game Design.p.67. MIT Press, Cambridge (2009).
17. Huizinga, J.: Homo Ludens: A Study of the Play-Element in Culture. The Beacon Press, Boston (1955).