

Interaction Design Guidelines for the Development of Advergames

Beatriz de Almeida Pacheco
 Computing and Informatics Faculty
 Mackenzie Presbyterian University
 São Paulo, Brazil
 bia.pacheco@mackenzie.br

Ilana de Almeida Souza-Concilio
 Computing and Informatics Faculty
 Mackenzie Presbyterian University
 São Paulo, Brazil
 iasouza@mackenzie.br

Abstract— The interactivity and immersion provided by digital games in line with the possibility to experience and feel the brand, makes advergames to have greater impact on the modern consumer than traditional forms of communication. This work is configured as a study on the development of visual interfaces and interaction possibilities in Advergames, identifying the influence of these interfaces in the communication process of the advertising message. Results are presented as guidelines focused on interaction design that will serve to guide Advergames developers to achieve successful and efficient design for the Advertising area.

Keywords— *interaction design; internet; games; advertising; marketing; advergames.*

I. INTRODUCTION

The emergence of the Internet in the figure of the World Wide Web and its popularization have become an important cultural phenomenon of our time, because it affects directly and indirectly the social life becoming a place increasingly more important to human relationships. Its tools increase the contact between people, and provide interactions hardly imaginable before its advent.

Such interactions occur between people and information, unlike the classical media (such as radio and television).

The Internet, which began as a free space for information sharing and knowledge building, due to its amazing growth, aroused the interest of businesses and corporations. They began looking, at this new platform, for ways to expose and, secondly, to promote their products and services.

With the increasing commercialization of products and services via the internet, there was a significant increase of electronic advertisements. These have greater or lesser efficacy according precisely with the use of language characteristics of the environment for which they are produced.

While static or dynamic ads predominated, they dealt only with a logic of seduction, an inherent characteristic of television commercials, billboards and printed media. While in the traditional media and in this type of electronic ad cited above, the consumer can practice different activities simultaneously, fact that divides his attention. From the inclusion of interactive and collaborative elements, especially those that work from the game mechanics, it was possible to

obtain full attention of the consumer / user, since the interactive process in such actions require full concentration to the challenges offered by the game [1]. So, with this process it is possible to add value to the product while making loyalty and gathering information about the consumer: an action of direct marketing.

In this sense, Advergames, games created especially to promote a product or brand, has been an interesting alternative to eliminate a possible consumer resistance to advertising on the network. Defined from the merger of the English terms Advertise (Advertising) and game (electronic game), is the name given to the strategy of marketing communication that uses video games as tools for dissemination and promotion of brands, products, organizations or viewpoints. Young people show up resistant to traditional advertising, but the possibility of interaction with the brand or product facilitates the acceptance. With the increasingly early access to technology, the games show up also a good alternative to reach children [2].

This possibility to experience, to feel the brand, coupled with the interactivity and immersion provided by digital games, makes advergames to have greater impact on the modern consumer than traditional forms of communication. Moreover, due to “nonlinear scripts and the several game mechanics, the consumer is exposed to advertising much longer than would be in a traditional media, without losing patience and attention” [3].

The aim of this work is, recovering some concepts about advertising games and interaction design, advance in studies about interaction design for games, specifically advergames, sketching a set of good practices that may be incorporated in the development process of this interactive tool of marketing.

II. DIGITAL MARKETING

Marketing is the science and art of exploring, creating and delivering value to meet the needs of a target market generating profits for companies or individuals who do it. It identifies the needs and wishes of this market; defines, measures and quantifies the profit size and potential; indicates the segments of society that is able to serve better, and develops and promotes products and services suited to meet these needs [4].

Marketers often work with a model: The mix or compound Marketing, known as 4Ps - Product, Promotion, Place and

Price. This was proposed by E. Jerome McCarthy, in 1960, and represents the following reasoning: companies produce and promote a certain product, communicate and inform the consumer about its availability in a given place (point of sale), at a given price.

Currently, with the fierce competition between companies and products, corporations no longer dictate the standards and products to be consumed, but perceive the consumers' possibility of freedom of choice and decision.

Increasingly, instead of trying to shape the market from their products, companies realize that it is composed of people with different needs and desires, and that a good option might be to develop specific products for each consumer group.

In Marketing, this process is known as market segmentation: "the process of dividing a market into groups of potential buyers with similar needs, desires, values perceptions or purchase behaviors" [5].

This view, taken to extremes, is called individualized marketing. The professional then seeks to measure the effectiveness of his marketing process no more through the results of their sales in the market as a whole, but rather, by projecting elevation or reduction of the perspective of future value that a particular client attaches to the company.

With the introduction of web media, marketing actions in this environment have been known as Web Marketing, or any promotional efforts undertaken by the Network. Search engines, major content portals, emails and hot sites stand out as vehicles. Now with the popularity of smartphones and tablets, a new form of marketing has emerged, Mobile Marketing, personified in various types of applications available for content distributors (AppleStore, Google Market and Market Place Microsoft) and mobile web environment.

It is worthy to highlight that Advergaming are actions that permeate both the Web Marketing and the Mobile Marketing.

III. ADVERGAMES

As stated initially, Advergaming are games whose primary purpose is the dissemination of a company brand or product [6]. In other words, the company or product is the center of the game. The interactive Marketing has been using this new vision to create differentiated campaigns not only on the web, but also on mobile devices like Tablets and Smartphones.

The main feature of Advergaming is the incorporation of the advertising message in the entire game environment in order to make the player immersed in elements which later remind him of such message, and hence the brand [6].

The message is the guidance that a communicator gives to an advertising campaign considering the response that you want to have from customers, this message, to be considered effective, should attract attention, hold interest, arouse desire and get an action [7]. The higher the memory of the company, brand or product that has been embedded in Advergaming, more efficient was the sent message.

According to whether the message you want to send, it is possible to define the immersion level that will be given to the

brand or product integration in the game environment, which can vary from only one associative integration to a demonstrative integration [6].

The use of trademarks in pieces of entertainment is not a new phenomenon. Advertisers have used this strategy for decades in movies, television programs and video games. Thus, advertisers seek to promote the brand through immersion of the advertising message in the content created by media companies of traditional entertainment.

Advergaming, however, offer a unique way of showing the product that is different from the traditional practice [Wise et al. 2010]. This type of entertainment is designed specifically for the purpose of promoting the sponsor brand, and therefore offers a hybrid way of brand messages: "Advergaming merge the level of advertiser control found in traditional advertising with the entertainment communication context associated with product placement" [8].

There are basically three levels of insertion of the advertising message in digital games, which are defined as follows by [4]:

Associative level: at this level, weaker and similar to conventional advertising, the brand is slightly associated with the style or proposed activity in an already existing game. The use of sponsorship's boards, billboards, logos through the game scenario, replicating advertising of the real world, are examples of this level.

Illustrative level: on the second level, stronger than the first, the brand is strongly associated with the game, by sponsored items within the virtual environment or by company promotions for players, for example. In this case, the brand is not only seen, but also starts to interact with the player as an active part of the game.

Statement level: It is the level more interactive as possible, where the brand is an integral part of the game, interacting with the consumer directly, with its own persuasive language. In this model, the brand products and services may be tested in a virtual environment and the concepts that the brand wants to send are a clear part of the game mechanics.

Thus, it is clear that the lowest level of integration is the associative, which relates the brand or product to a lifestyle or an activity shown in the game. At the second level, Illustrative, the product is inserted into the game environment and the player interacts in some way with this product; and finally at the Statement level, the game tries to use as much as possible the interactivity of the consumer with the product [6].

Advergaming examples may include "puzzles and classic games, arcade-style games, and other highly engaging features such as avatars or building using candy to 'paint' pictures" [9].

Another form to classify Advergaming was proposed by Svahn [10] when he divided into four different categories according to the level of immersion of the message in the game.

In the first type, electronic games only serve to attract players and make them stay longer at a site, while the

advertisement is done through banners that wrap around the game [10].

In the second category proposed by the author, the advertising message is not the central point of the game, but it is possible to find elements that refer to the brand. This type uses the associative integration and is widely used in games whose environments depict cities (help create an atmosphere more real to some players, since for others it is intrusive). This type of advertising is also known as In-Game Advertising [11].

In the third type the brand is the center of the game development, is actually the type known as Advergame. The brand or product is represented graphically in the game, but its memory remains even outside [10]. This category uses illustrative integration so that the player can interact in some way with the brand or product.

Finally, the fourth type proposed by Svahn [10] consists of customizable games that seek to provide greater interactivity to the player with the advertising message. The brand does not need to be made explicit in the game, because the game itself is the advertising message.

An advertising campaign that uses games Advergames can start with simple and low cost games and go evolving to games that are more sophisticated and with a larger number of tools for brand exposure, user retention and details on the obtained data.

The customization of an existing game cannot take creativity to the campaign, but it adds to the ease in learning the commands by users. New games can take an excessive time in their development for an advertising campaign, but their unique nature can attract a large number of players.

Regarding the distribution, this type of game can be embedded in websites, mobile apps and social networks, and as users use games as an entertaining tool, usually when they please them, they are configured as a good strategy for Viral Marketing, further enhancing the exposure of the product or brand.

IV. INTERACTION DESIGN

By interaction design, Preece, Rogers and Sharp [12] understand as:

“The design of interactive products that provide support for people's daily activities, whether at home or at work”.

Or :

“Interaction Design is the creation of a dialogue between a person and a product, service, or system. This dialogue is usually nearly invisible and found in the minutiae of daily life—the way someone may hold his knife and fork while cutting into a steak or the way another person may automatically switch windows to check her Facebook wall every few minutes or so. Structuring this form of ethereal dialogue is difficult, as it occurs in a fourth dimension—over time” [13].

Winograd [14] describes the interaction design as the design of spaces for human communication and interaction. He

also points to the fact that “computers have created a new medium -- one that is both active and virtual. Designers in the new medium need to develop principles and practices that are unique to the computer's scope and fluidity of interactivity”.

Preece, Rogers and Sharp [12] also highlight that such design contrasts with Software Engineering, which focuses mainly in the development of software solutions for certain applications.

For the success of interaction design, several disciplines need to be involved. The importance of understanding how users act and react to situations and how they communicate and interact caused the engagement of people from different areas, such as psychologists and sociologists. The authors also points out that, similarly, the increasing need to understand how to design different types of interactive media in a effective and pleasurable way makes important the engagement of a variety of other professionals such as graphic designers, artists, animators, photographers, film experts and product designers.

This set of people would promote the right combination of skills with an understanding of different areas of application necessary to design a new generation of interactive systems. From the 2000s, the possibilities offered by the capabilities of emerging hardware point to the engineers' needs who know hardware, software and electronics, to be prepared to configure, assemble and program appliances and other devices so that they communicate with each other (middleware) [12].

Kolko (2011) complements saying that there is a series of texts that has explored the interaction design: some consider the role of design in Human Computer Interaction as a field delimited by Cognitive Psychology and Computer Science. These texts often describe the nature of design as a user interface design on a screen, emphasizing the specific elements that appear in the interfaces, or by examining examples of good practice, heuristics, or guidelines for creating interfaces. This type of text, according to the author, is often found in computing courses and can be used as a textbook for engineering students interested in understanding the impact of the repercussions of human-level of their actions.

The author also points out that there are other texts that explore the nature of design as related to the creation of two, three or four formal dimensions. Such texts commonly consider aesthetic and emotional value provided by shapes, compositions and arrangements of elements. The mechanism to explain formal choices is, in these cases, usually by showing a physical or interactive product that illustrates the result of the design work in a graphical way that emphasizes the beauty and elegance. This type of text, according to Kolko [13] is often found in art and design schools and can be used to illustrate some historical precedent for the stylistic movement.

There is, however, according to the author [13], few texts that explore the semantic connections that inhabit the space between the technology and the way that they “are brought to life” when someone uses a product. These links can be thought of as “interactions-interactions” that, together, compound the behavior and are beginning to suggest that a known field as design is a legally separated area of study (which runs alongside Science and Art). This text describes Interaction

Design and considers and reflects on the theoretical and conceptual aspects of the discipline. It is clear, therefore, in the definition of Kolko [13], something that separates it from traditional definitions of Interaction design, because the interaction design, as the other designs, carried on a middle line between Art and Science.

Preece, Rogers and Sharp [12] pointed out the important fact that depending on the opportunities brought about by technological improvement in terms of the development of interactive systems, other goals to be taken into account by the designer during the project start to play a relevant role. For this purpose, interaction design should consider goals of usability arising from user experience during the development process of such systems.

According to ISO 9241 [15], usability refers to the degree to which a product can be used by a specific group of users to achieve specific goals within a context. This considers:

- effectiveness (accuracy with which users achieve specific goals);
- efficiency (resources expended for users to achieve such goals) and;
- satisfaction (absence of discomfort and presence of positive points related to the use of a product).

As to Krug [16] points out that the concern of usability is to make sure that something works well, that a person with ordinary skill and experience may use something for its intended purpose without getting frustrated with it.

This definition complement and validate the definition of Nielsen [16], who pointed usability as a quality attribute that evaluate how easy user interfaces are to use. The author further stated that such an attribute is composed of five components: learnability, efficiency, memorability, error handling and satisfaction.

Thus, it is clear that the discipline of Interaction Design has a strong concern from the beginning of the development process of a product, to understand the user's needs and to define the goals of such a system from the experiences of these users in the interactive process. These needs and objectives are described as usability goals and targets arising from the user experience [10].

According Preece, Rogers and Sharp [12], usability goals are concerned with filling specific criteria of effectiveness, efficiency, safety, utility, learnability and memorability. The goals resulting from user experience should explain the quality of this experience. In this category, the authors point to an experiment: fun, satisfactory, emotionally appropriate, rewarding, interesting, enjoyable, rewarding, motivating, aesthetically remarkable and creativity incentivizing.

It is worth noting that while the usability goals are described in a way more objectively measurable, through facts and metrics, user experience objectives are more subjective, verified primarily through user opinion.

The authors [12] also suggest that it is necessary to recognize and understand the balance between usability and

user experience goals to be able to achieve the expected targets in the design of such systems, and that each type of interactive system has its own point of balance.

V. INTERACTION DESIGN AND GAMES

Games are a relatively new area of design and rapid development. As new technical possibilities are developed, new business areas are added, new users are incorporated into target audiences and new types of games arise. Computer games has, for some time, pushing the limits of the consoles and computer screens and reaching education programs, advertising, social networks and three-dimensional environments, in indoor or outdoor applications.

Higher degrees of interaction allow a complex and intuitive combination of interaction sequences. Enriched interaction possibilities provide participants flexible ways to communicate and act within the entertainment environment.

As stated earlier, the Interaction Design is responsible for the creation of a dialogue between a person and a product, service or system, which can be a game or even an advertising game. It is responsible for creating experiences that, in the case of this research, aim at establishing and strengthening the relationship between the consumer and the brand or product.

Thus, one must consider, first, when designing this type of experience, the availability of several interaction mechanisms that allow the system to help participants choose those best suited to their purposes. Secondly, to provide a combination of different communication channels that must allow the messages to increase or the running of contradictory behaviors. Thirdly, one should consider the fact that the “tacit knowledge” can be transmitted in this type of interaction process, allowing intuitive and subconscious actions [17].

When considering games and entertainment, Bowman and Hodges [18] point out that the applications do not usually require complex interactions between the user and the system, but highlight that these tend to be more complex than those in the real world.

The game design determines the game winning and losing criteria and must include the plan of how the user will be able to control the game, information through which the system will communicate with the user and will establish the game degree of difficulty. In short, the game design determines every detail of how the game works [19].

VI. INTERACTION DESIGN GUIDELINES FOR ADVERGAMES

Based on the conducted research, it is possible to verify the existence of behavioral patterns when a player uses Advergimes. Considering these patterns, some guidelines have been developed with the aim of guiding Advergimes developers, so that the developed products are pleasing to the users and functional for the brands they represent and disseminate.

The guidelines presented should be complementary to the usability and user experience guidelines proposed by Nielsen [17] and Preece, Rogers and Sharp [12]. In this sense, some of

these will be recovered in the context of this research, and later others will be presented.

Adapted guidelines:

Internal and external consistency - When developing a graphical interface for Advergame, it is necessary that the interface remains the same throughout the game. It cannot change the adopted visual identity at each phase or stage of the game because it creates confusion in the mind of the user. Furthermore, it is interesting that the interactive processes are similar to those used in other games, facilitating the recognition of action and behavior patterns.

Feedback - Whenever the user performs a certain action, he expects the game to respond somehow. Therefore, it is always necessary to give a feedback that allows the user to understand that the game captured his action.

Control and language compatible with the user's ability- It is important to remember that different users have different skills, and for this purpose, a certain group of users can present a difficulty in a specific part of the game that no other group has. It is necessary to identify the specific characteristics of the final users that the game is designed for and develop controls that facilitate player interaction with the game, respecting their repertoire.

Minimalist interface – The game graphical interface should contain only components that are essential for its operation or transmission of the message, because when putting extra elements, these will compete with the other most important elements decreasing user visibility on its information.

Motivation - The Advergame should motivate the player to interact with the brand or product and create an interest, because when people are more interested in a particular subject they remember it more easily.

New guidelines:

Brand participation - The user has a greater ease of memory of game elements with whom he interacted, than with elements that only set the scenario. The introduction of the product in the game mechanics ensures that the user manipulates it and stays for a longer time in contact with it, and consequently suffers greater influence of the product. The message is transmitted more efficiently when the player interacts with the product in its current context, comparing performance characteristics of different models of the same product.

Highlighting the Brand - For a customer to be attracted to a brand, it should look to his eyes as something unique, strong and beneficial. When developing a Advergame, it is necessary to put the user along with the brand in situations that highlight these three characteristics, showing that when using it he will have an advantage over those who do not use, and also that this brand can only be used by people who have unique characteristics that positively differentiate it from other people.

Direct and addressed communication - The specific characteristics of the target audience to which the game is intended, are of utmost importance to define of the type of

communication to be used. Knowing what motivates a particular audience to make a purchase or to use a product or brand is of critical relevance. The player wants to be treated as an individual and not as just another customer. As the client feels appreciated as an individual, he creates a bond with the brand, which is very important for a lasting relationship.

Reinforcement - Both the game content and theme should strengthen in an emotional or logical way the advertised brand. To link the brand to images that produce in the mind of the user the feeling of power, charm, elegance, high status, etc., help make the user identify the brand with these features.

Compatibility of the game's storyline with the Brand - The brand itself has a number of features that produce both functional and emotional effects in the customer's mind. These effects must be analyzed before the development of the advergame, since they must be present explicitly in the game interface. This helps in establishing the brand in the mind of the user.

Referentiality - It is necessary to remember that a brand is composed of elements that give visibility and expressiveness such as the logo and packaging, and it represents the organization's relations with society and its leadership, vision and values, mission, etc. So when the user interacts with the product within an Advergame, this should not be taken to be limited to the product, but it is necessary to give greater referentiality, reminding the user that if he buys that product, he will be not only relying on a product of quality but will be acquiring a concept.

VII. EVALUATION OF PROPOSED GUIDELINES

To be able to check the validity of the proposed guidelines, a questionnaire was made based on the usability evaluations of interactive systems.

Usability testing is a process in which representing participants (part of the system's target audience) evaluate the degree to which a product meets in relation of specific criteria of usability [20].

Such testing can be used for different purposes, and usually evaluate the system from performing tasks, performance measures and provision of scales, interviews or inspections. From the obtained results, it is intended to make recommendations to minimize or eliminate the identified problems and improve the usability, or even the user's experience when interacting with the product.

For the evaluation of the proposed guidelines for advergames, an online questionnaire was prepared and answered by 5 (five) users, following the Nielsen's methodology [21].

The most common way to evaluate the usability of an interactive system is watching its interaction with the user. This can be done in a laboratory with a representative amount of users for which the system was developed or in the work environment where the system will be deployed. The most important thing in the evaluation of this process is that, whenever possible, one should use the proper user for the proper tasks to obtain the maximum evaluation as possible.

Testing with 5 (five) users:

According to Nielsen [21], “the best results come from testing no more than five users and running the many small tests as you can afford”. As the author says, when the first user is tested, about a third of the usability and design of the problems are already solved (Figure 1). Many things are repeated and new ones are added. This will decrease the number of innovations, and, from the sixth user is detected on anything important.

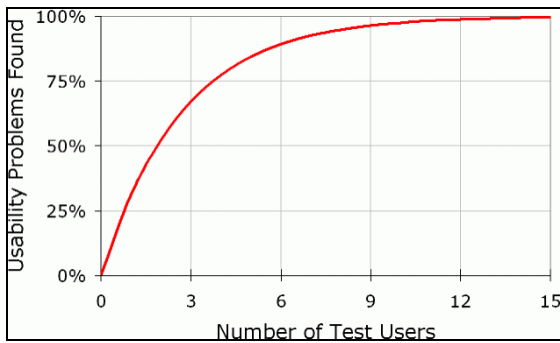


Fig. 1. Testing with 5 users [21]

Therefore, "there is no real need to keep observing in the same-thing multiple times" because "after the fifth user, you are wasting your time observing the same-Repeatedly findings but not learning much new" [21].

Also according to the author, to discover all the usability problems in an application it should be tested only by 5 users.

VIII. RESULTS

To evaluate the proposed guidelines, two advergames were tested: Minion Rush and Minion Rescue; both games promote the same product, the movie “Despicable Me 2” (Figure 2).

To access the first game it is necessary to download free from the AppleStore or GooglePlay. The interested player is addressed to the stores from the movie page on the Internet (Figure 3).



Fig. 2. Poster for the movie “Despicable Me 2”.
Source: <http://www.imdb.com/title/tt1690953/>

Since the user downloads the Minion Rush game (Figure 4), there is no more direct link between him and the site, but if you wish, there is with social networks.



Fig. 3. Movie's website.
Available at: <http://www.meumalvadofavorito2.com.br/>



Fig. 4. Minion Rush interface.
Source: <http://www.meumalvadofavorito2.com.br/>

Users tested the downloaded the game without major problems. Some used others' cellphones to test it. The game has been tested on devices with both operating systems for which the game was available (Android and iOS).

From the movie page you can also access other games for smartphones and tablets, and there is an option to play online: Minion Rescue (Figure 5).

This game, developed in HTML5, just slightly restrict the public due to the browser, which implies the need for language support, namely, requires an updated version. It is a game demo that has traditional script and mechanics.



Fig. 5. Minion Rescue Interface.

Source: <http://www.meumalvadofavorito2.com.br/>

For the testing, a questionnaire was developed consisting of sixteen questions about the proposed guidelines, as well as issues related to age and proficiency in the use of smartphones and computer games. Namely:

1. Have you read the game instructions or started the game without reading them?
2. Have you easily found the control commands?
3. Did you always knew in what game level you were?
4. What did you find most difficult in the process of interaction with the game?
5. Do you think that the interface was beautiful?
6. Do you think that the game was motivating?
7. Would play it again?
8. Was there any explicit reference to the brand (product) in the game?
9. Was there any element in the interface, not the logo, that you have associated with the brand in question?
10. Did you find the game exclusive?
11. Did you feel connected to the brand?
12. Has the game motivated you to buy products of the brand?
13. Do you believe that the game promotes the brand?
14. Have you felt good playing the game?
15. Do you believe that the game shows well the features of the brand?
16. Have you identified yourself with the brand?
17. Can you relate the brand with quality products through the game?
18. Could you understand the concept of the brand?

From the collected answers in both evaluations, it was perceived similarity in relation to the players' impressions with regard to the advertised film.

They all agreed that there is no explicit reference to the brand in the main game interface nor an appeal for consumption. There was also unanimity on the issue that

evaluated the exclusivity of the game and the connection with the brand, 100% of respondents answered affirmatively.

Another point to highlight is that all players who knew the movie (60%) said that the use of the movie's main character Minion as a character of the game was a powerful element to reinforce the reference to the brand.

An important issue, however, is the dissonance of impressions about the two games: while the experience in Minion Rush was considered excellent by all interviewees, in the Minion Rescue was considered unsatisfactory.

In conversation with the users, it was possible to notice their disappointment regarding the Minion Rescue's feedback. There was a delay on the system, both with respect to the game loading and commands responses. It is also important to remember that this is an online game.

This difficulty in interacting strongly harmed the responses to questions 2,3,4,5,6 and 7 of the questionnaire. None of the players would play the game again and those who knew the movie said that this game affects its image. In this sense, we can also highlight the lack of association of the film with a quality product for those who tested first the online game: 2 (two) found that the game was not official and two others did not consider that the game does not show well the characteristics of the brand.

Note that the guidelines resulting from the interaction design and have not been satisfactorily resolved eventually harmed the advertising message of the online game. On the other hand, with the mobile app, the provided experience was quite satisfactory, which made some testers to continue with the game on their smartphone.

IX. CONCLUSION AND FUTURE WORK

From this study it is possible to notice the opportunity to create advergaming from interaction design guidelines and that consider issues related to game development and marketing concerns.

In this sense, from the marketing concepts, it is possible to consider design guidelines for such systems that manage interfaces and interactive processes suited to advertising language for digital media such as Web and mobile applications.

As future work, we intend to develop more specific tests and heuristic evaluations that may ratify the validity of the proposed guidelines.

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