Paximadaki, the game: Creating an advergame for promoting traditional food products

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ABSTRACT

This paper presents an advergame installation for promoting the brand and products of a food company producing various types of traditional Cretan rusks. The paper first presents some background and related work. Then the requirements set towards creating the game are outlined, followed by concept creation and design decisions taken in order to meet these requirements, as well as a description of the user interface, gameplay and implementation characteristics of the resulting game. The game has already been installed with remarkable success in two different food exhibitions.

Categories and Subject Descriptors

K.8.0 [**Personal Computing**]: General – *Games*; H5.2. **[Information Interfaces and Presentation (e.g., HCI)]**: User Interfaces - *Ergonomics; Interaction styles; Screen design;* H.5.1 Multimedia Information Systems.

General Terms

Design, Experimentation

Keywords

Advergames, game design, public interactive installation

1. INTRODUCTION

Most of the time, the promotion of products in food exhibitions is performed through the dissemination of material such as posters and leaflets, as well as through tasting and sample dispensing. Additionally, some audiovisual means like videos and rolling presentations are used. But, this approach has several drawbacks, as: (a) it is passive; (b) everybody does it; (c) the time that a person is 'exposed' to a brand and its products is minimal; (d) recollecting which product was made by which company may be particularly hard after one has seen or tasted several products of the same type; and (e) it can quickly become tiring and boring.

In the past few years, a trend towards more active, user-involving marketing of products has surfaced, through the use of interactive games purposefully designed for a specific brand. This trend is commonly referred to as *advergaming* [13] (from "advertising" and "gaming"). In this context, this paper presents the creation of an advergame installation that was developed by Institute of Computer Science of the Foundation for Research & Technology – Hellas (ICS-FORTH). The game is targeted to promoting, in exhibition spaces and key points of sale, the brand and products of "Kriton Artos"[1], a company producing traditional Cretan rusks.

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2. BACKGROUND AND RELATED WORK

Up to now, advergame research has mainly focused on online / web-based games [[3]; [18]]. In the past few years there has been an increasing interest in analyzing and testing several aspects of advergames. In this context, related findings (e.g., [[6]; [10]; [18]]) support that *congruity* between the brand and the content of the game impacts brand memory and attitudes towards the game. There is a fine balance in the level of game-product congruity, since too little congruity may result is inferior memory effects, while, too much may raise mental barriers against the communicated message. Additionally, several papers (e.g., [[2]; [7]; [14]; [15]] reference, analyze or contribute towards attaining the the feeling of *flow* (or *optimal experience*) [1]. A key element for achieving flow is a perfect balance between one's skills and a task's challenge. Experiments by Waiguny et al [16] and Gurau [7] confirmed that an optimal challenge flow state can positively influence brand evaluations in advergames and the buying behavior of players.

Overall, research findings converge towards the fact that advergames are an effective tool for achieving brand awareness [[6]; [7]; [8]; [16]; [18]] and that they have a clear advantage over past approaches [17]. Furthermore, there is evidence that if a game is entertaining, it has a positive influence on brand marketing [[7]; [16]]. Another interesting fact is that prior game-playing experience does not seem to relate to advergame brand memory [[6]; [12]; [17]]. Additionally, there is some indication that players who perform well within the game environment tend to retain in-game advertising messages better than players who perform badly [5]. Another important fact is that players who are aware of the presence of in-game advertising are statistically more likely to be happy with its use [8].

3. GAME DESIGN

Our design approach was based on the following (Figure 1):

1. New technologies, moving beyond typical approaches of the past.
2. Exhibition visitors' active participation and interaction.
3. Embedding useful product-related information into a fun and meaningful activity.

[1] www.kritonartos.gr

4. Creation of an entertaining experience.
5. Taking advantage of social networks and word of mouth advertising.

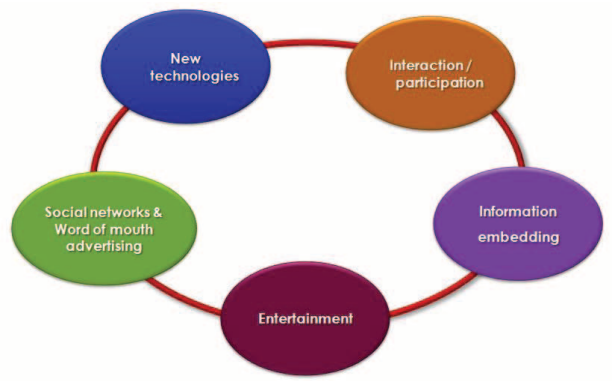

Figure 1. Key ingredients of the design approach followed

After conducting a number of meetings with representatives of the food company, a set of goals that the target game should meet were agreed. More specifically, it should:

(a) Allow the broader public to learn about, recognize and remember the brand's name and products and establish a positive image about them.

(b) Link the brand and its products with the island of Crete.

(c) Inform about potential uses of the products.

(d) Establish a mental connection between the products and notions such as exercise, healthy living, having fun.

(e) Provide an opportunity for rewarding active visitor participation (e.g., through complimentary samples).

(f) Accommodate players of all ages. Multiple player (cooperative / competitive) games should also be supported.

(g) Facilitate the collection of contact information.

(h) Provide the means for word-of-mouth advertising.

(i) Allow for a high-profile, dynamic presence.

(j) Last less than 2 minutes, so that players do not get tired, those waiting in line do not get bored, and a high throughput of players can be achieved.

In response to these requirements, and also building upon related work, it was decided to create a Kinect-based PC *exergame* [11], involving physical activity as a means of interaction. In this respect, it was decided to just use the depth camera's image in order to render a virtual shadow of the players, instead of tracking body skeletons. The rationale was two-fold. On the one hand, it was assumed that it would be easier for people, especially "non game-players", to identify with their shadow rather than with an avatar. On the other hand, this approach allowed for maximum flexibility regarding the number, posture and size of players, as well instantly joining and leaving the game.

The envisioned gameplay[2] is simple, straightforward, and has very clear goals. Players perceive their bodies as shadows projected on a brick wall (Figures 2, 3 4). Depending on the players' number, there may be one or two baskets at the two bottom sides of the wall (Figure 4). A 'rainfall' of rusks starts. Players must use their shadows to put the rusks into their basket. Rusks that fall on the floor are broken into pieces. The game ends after a certain number of rusks have fallen.

Figure 2. Game's main screen

Figure 3. Screenshot of indicative gameplay

In order to cater for the aforementioned design goals, the following features were included in the game:

(a) The company's logo appears on the brick wall and on the player's baskets. Also, its motto appears on the wall. All in-game graphics are actual photos of the company's products.

(b) Cards with brief instructions about the game appear at the beginning. The last card is an advertisement that contains just a photo and the name of a product.

(c) Two musical scores are used combining traditional Cretan music with a modern beat. Additionally, the moves required by the game implicitly refer to traditional Cretan dances. Level selection buttons are Cretan versions of "smilies" (Figure 2). The "game over" sign appears as a road sign, which is eventually shot and destroyed (an infamous practice occasionally performed in the Cretan mainland).

(d) If players manage to put together a round rusk and a tomato, a dakos, the most popular rusk-based Cretan dish, is created, which provides bonus points if put in a basket.

(e) The game requires considerable body movement that increases as time passes. To better match player's skills to game challenge [15], three alternative levels of difficulty have been designed: (a) *easy*, targeted to small children and

[2] Videos of indicative play sessions can be found at: http://www.youtube.com/user/icsforthami

older players, (b) *hard*, for hardcore and returning players and (c) *normal*, for everyone else.

(f) In order to create a "memorable moment" [9], when the end of the game approaches, a huge amount of rusks start to fall. To notify players about this, a bleating goat appears, providing a humorous note, but also another link to Cretan tradition. Additionally, the music shifts to a faster tune.

(g) For rewarding players, when a specific score level is reached, a bag of rusks jumps out of the basket, which can then be redeemed with an actual product.

(h) During gameplay, at moments likely to provoke interesting players' poses the game takes photos of them. Game graphics, are overlaid to the photos, which are presented on screen when the game finishes. The last photo taken appears on the title screen until a new game starts.

(i) Distinct high scores are kept per difficulty level and number of players.

(j) As a means to ensure that the total gameplay period will not exceed a maximum time limit, all falling objects come with a specific lifespan.

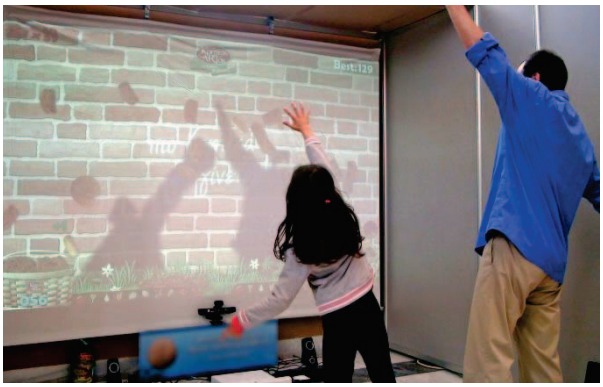

Figure 4. Playing a two-player competitive game

More than 50 hours of playtesting took place in order to fine-tune the gameplay and also debug the game, in a realistic installation at the premises of ICS-FORTH, with more than 30 players of both genders, with ages ranging from 4 to 52 years old. A very encouraging fact was that all players liked the game, said that they had a lot of fun and wanted to keep playing, even after their playtesting session was over.

4. GAME INSTALLATION SETUP

The game installation setup (Figure 5) requires about 3m^3 of space and includes:

- An ultra-short throw 1280x800 projector, producing an image 2.8m wide x 1.75m tall from less than 1m.
- A Kinect device mounted on a stand at about 0.5m above the floor surface.
- A 1280x720 web camera, fastened on the Kinect.
- A laptop with an Intel Core i7 processor and an nVidia GeForce GT 525M graphics card.
- A large projection surface.
- A red ribbon loosely tied on two short free-standing poles, so that if someone steps on it, it moves along, thus avoiding potential accidents.

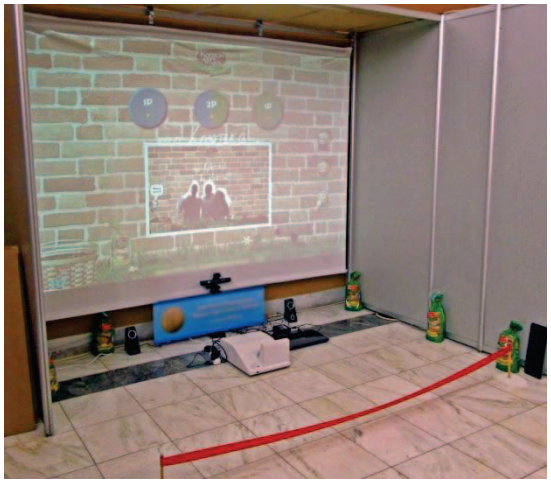

Figure 5. Indicative game setup

5. IMPLEMENTATION

The game was developed in Actionscript 3. The Kinect code was integrated using *native extensions* for Adobe AIR[3], a combination of ActionScript classes and native code that provide access to device-specific libraries and features. In order to look more like a real shadow, the original Kinect image was made semi-transparent and altered using erosion, dilation and blurring filters. Additionally, arbitrary minimum and maximum distance values, depending on the current installation setup, are used to filter out objects residing outside the play area. Due to the low resolution of Kinect's RGB camera, an external web camera is used for taking photos of the players.

Figure 6. WYSIWIG interface for setting Kinect parameters

The game integrates a WYSIWYG (*what you see is what you get*) interface (Figure 6) which allows the dynamic change of all parameters affecting the virtual shadow (e.g., crop, scale, reposition, minimum / maximum depth, filters' parameters). This interface proved to be extremely valuable at both installation sites, since it allowed to quickly and easily overcoming detection problems in the boundaries of the camera viewing areas (e.g., due to a shelf with products protruding in the play area, a spot light reflected at the top side of the kiosk, etc.).

In order to be able to easily fine-tune all the parameters of the gameplay for each distinct level, none of these are hard-coded. Instead, levels are defined through a set of XML rules residing in

[3] http://www.adobe.com/devnet/air/native-extensions-for-air.html

separate external files. These rules can affect global gameplay parameters (e.g., gravity, friction, maximum speed, maximum number of concurrently falling rusks, score points required to get bonus bag), and also cause game actions, such as the fall of a rusk (also setting its type, speed, lifespan, etc.), taking a photo, notifying the player about the start of the memorable moment period etc. Rules can be triggered by time-based events (e.g., amount of time passed since the beginning of the game, or since the last rule was triggered) and gameplay progress (e.g., number of remaining or concurrently falling rusks). In order to provide some randomness to the game, the time frame during which the effect of a rule will take place, can also be defined.

6. CONCLUSIONS

The game has already been installed with remarkable success in two different food exhibitions, where it has been played by more than 500 people of ages ranging from 2 to 76 years old. Overall, the response to the game and its goals by people of all ages who played it, but also by parents, friends, bystanders, and other exhibitors was unanimously positive. Everyone had a lot of fun and considered it as a very good means for product promotion. The company advertised by the game definitely benefited both in terms of publicity and of highly increased on-the-spot sales. Furthermore, regardless of the totally uncontrolled installation environments, the game ran astonishingly robustly. There was not a single technical problem (bug, crash, game reaching an undesirable state, loss of recorded data, etc.) during any of the game sessions. The game was also presented on MEGA (TV) Channel, on the morning show with the highest ratings in Greek television[4], as well as on national television[5]. During both installations a large variety of qualitative and quantitative data were collected through on-the-spot and on-line questionnaires, interviews and observations. The analysis of these data reinforces the fact that the developed game achieved its design goals, offering on the one hand, a highly entertaining experience, while, on the other hand, positively contributing to the marketing of "Kriton Artos" company and its products.

7. ACKNOWLEDGMENTS

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[4] http://youtu.be/ZkVrtXuotjM

[5] http://youtu.be/4vjLYM-3CgU