Co-located Interaction in Casual Games for the Dissemination of Traditional Stories

Interação Co-localizada em Jogos Casuais para a Disseminação de Histórias Tradicionais

Sofia Reis, Nuno Correia

Faculdade de Ciências e Tecnologia da

Universidade Nova de Lisboa

se.reis@campus.fct.unl.pt, nmc@fct.unl.pt

Resumo

Neste artigo é apresentada uma estratégia para a disseminação de histórias tradicionais através de uma interação entre o mundo real e o mundo virtual. No nosso jogo o utilizador não estará isolado em frente do monitor e terá de recorrer a outras pessoas para poder ser bem-sucedido. O jogo é um estímulo para que os utilizadores descubram a história de um país tendo as lendas como ponto de partida. O nosso foco é no caso particular das Mouras Encantadas que são parte integrante da mitologia Ibérica. Os resultados demonstraram que, depois de jogarem o jogo, 43% dos utilizadores se envolveram em contato social, sobretudo com amigos e com a família e em casa, e que 58.2% ficaram com curiosidade de saber mais sobre Mouras Encantadas.

Jogo Casual, Herança Cultural, Lenda.

Abstract

In this paper a strategy is presented for the dissemination of traditional stories via an interaction between the real world and the virtual world. In our game the player will not be isolated in front of the monitor and will have to call upon others to be successful. The game is a stimulus for players to discover a country's history having legends as a starting point. Our focus is on the particular case of Enchanted Moors that are part of Iberian mythology. The user study showed that, after playing the game, 43% of the players engaged in social contact, mostly with friends and family and at home, and that 58.2% of the players were curious to know more about Enchanted Moors.

Casual Game, Cultural Heritage, Legend.

1. Introduction

Digital games have often been accused of leading to social isolation (Griffiths 2010; Zamani et al. 2010). Here, a strategy is presented where players have to socialize in order to win, so that the game becomes a trigger, and not a deterrent, for social engagement. In multiplayer games players often have to collaborate, but that collaboration may be remote. Here, the players need to be co-located so that face to face contact is achieved.

Our game (SchoolOfMagic 2012) is centered in the dissemination of traditional stories passed from generation to generation through oral tradition and these legends may serve as a starting point for an interest in the study of real history. Previous work about games that are targeted at the preservation of cultural heritage and that occur in social settings is discussed in the next section. Section 3 presents our proposal. Section 4 describes the user study and Section 5 discusses the results. Finally the conclusions and future work are in Section 6.

2. Related Work

Other researchers have already addressed the dissemination of traditional tales or of a country's history. In the InStory Project the authors resorted to a PDA to explore the gardens and palace of Quinta da Regaleira, in Sintra (Barbas et al. 2006). In iLand the oral culture and traditions of the Island of Madeira are exposed to foreigners and tourists (Dionisio et al. 2011). In another work the authors promote a prehistoric heritage site, the Gargas caves, to an audience of general public and particularly to children (Djaouti et al. 2009). In the Skins workshop students were encouraged to reflect on their traditional stories and to develop interactive environments based on them (Lameman et al. 2010). The Archeoguide project provides augmented reality reconstructions of ancient ruins of the archeological site of Olympia in Greece (Vlahakis et al. 2001). Decho is a framework for the digital exploration of cultural heritage objects (Aliaga et al. 2011). REXplorer is a mobile game that explores the history and culture of Regensburg (Ballagas et al. 2007). In the next Section our proposal of a casual game aimed at the preservation of cultural heritage making use of co-located social interactions is presented. We address the still scarcely explored thematic of Enchanted Moors.

3. Our Proposal

Our game (SchoolOfMagic 2012) disseminates legends while stimulating social engagement among players. More than 800 years of history has provided Portugal with a vast collection of legends where the divine and the supernatural walk hand in hand with mortal humans. Enchanted Moors are an intriguing and popular part of Portuguese mythology. They are mythical beings who possess vast wealth and magic powers (Parafita 2006; Vasconcelos 1938).

Enchanted Moors' stories are varied, but there is a common thread to most of them. As the Portuguese conquered the territory under Moorish domain, some Moors, amidst the confusion of battle, where left behind. However, to assure their protection from the invaders, they were

enchanted (Parafita 2006; Vasconcelos 1938; Frazão 1982). This enchantment would assure their safety until eventually the Moors returned to Portugal and had the opportunity to set them free. For example, a Moor who could not reach his daughter during the conquest of the Castle of Salir enchanted her so that she became invisible to the conquers' eyes (Frazão 1982). The Moor's enchantment can be broken if a trustworthy savior appears and completes a mission. For example, in Lagos an Enchanted Moor required a woman to build a house without doors and windows. The woman became the village's ridicule for building such a nonsense building. However, when the construction was over the enchantment was broken and he rewarded her with an immense fortune. According to legend, many Enchanted Moors are still trapped in Portugal and throughout Iberia (Barcala 2002), patiently waiting for someone to break their enchantment and set them free (Frazão 1982).

Our objective is to disseminate folk tales about Enchanted Moors through a game that relies on group work. In our game, players wander through a labyrinthic forest (Figure 1). We chose a forest because, in legends, Moors are reported to be sighted in such places (Frazão 1982). There are seven sister Moor Princesses in the forest: Fátima, Jasmina, Tadmor, Sara, Karima, Doniazade and Laila. The princess that presents herself to the player is randomly chosen. The Enchanted Moor waits for the player by a cascade (Figure 2).
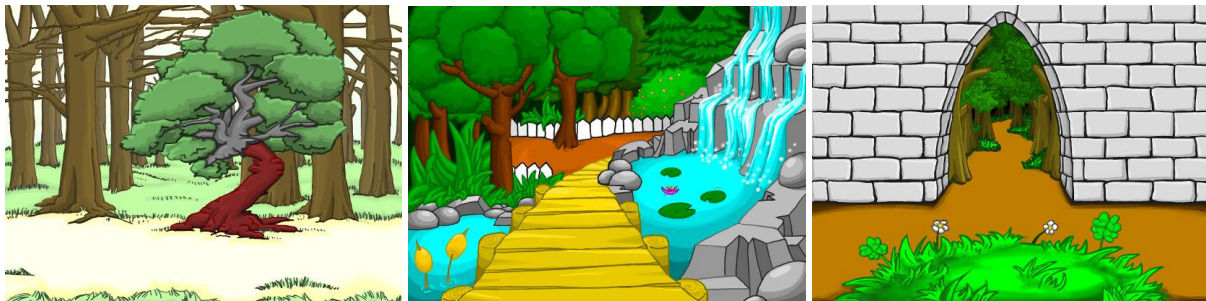

Figure 1: Screenshots of several parts of the labyrinthic forest.

Figure 2: The Moor Princesses, from left to right: Fátima, Jasmina, Tadmor, Sara, Karima, Doniazade and Laila.

After addressing the player, the princess states that she needs two players to look into her mirror so that the spell may be broken (Figure 3). Through a face detection algorithm that resorts to the Haar Cascade Classifier (Libspark n.d.; Klingemann 2009) we know how many players are looking to the mirror. After the required number of players has been attained the spell is broken and the princess is set free. As a way of thanking the player for his or her courage the Enchanted Moor offers a safe filled with virtual gold coins (Figure 3).
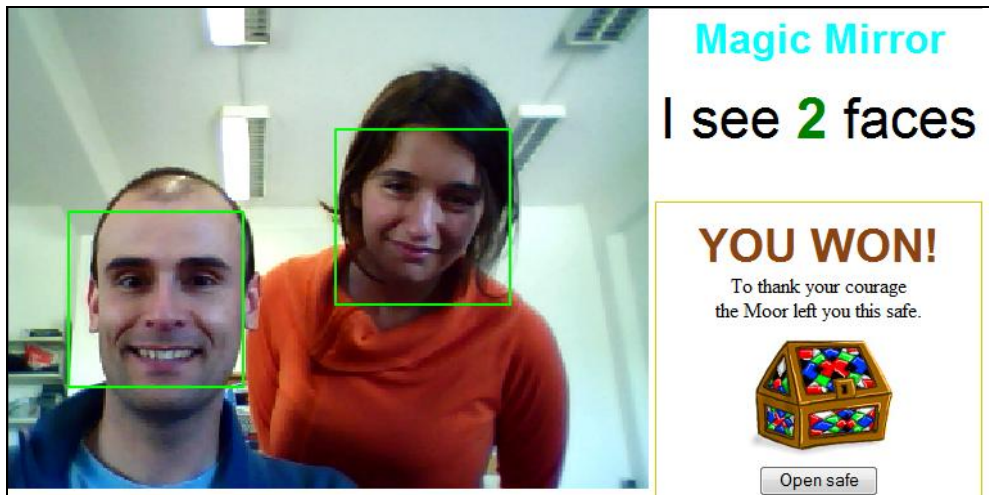

Figure 3: Two players have to look at the Magic Mirror to free the Moor.

Our proposal can be applied or adapted to other mythical elusive creatures. For example, similarly to Enchanted Moors, leprechauns also hide treasures. If captured by a human the leprechaun may give the captor a pot of gold (Britannica 2012).

4. User study

To test our strategy we made our game available through the Internet and advertised it in mailing lists and on social networks. In the game there is a link to an anonymous survey that was previously tested. Players were asked to fill the survey after they played the game. No rewards were offered for filling the survey. We could have asked users to test the game in our lab but we considered that an online game would provide us with a more realistic test scenario (Cramer et al. 2010). We monitored the access to the game and collected answers from players to the survey during one week. During that time period our game was accessed 898 times. The game was completed 130 times, which means that the Moor Princesses were successfully rescued 130 times. Those 130 rescues do not forcibly correspond to 130 different users as the same player can rescue Moor Princesses several times.

49 players answered our survey. From those 49 answers, 6 answers were discarded because we found out, through those players' answers to the open ended questions, that they did not allow the game to access their camera and the camera is vital to this game experience. The camera access issue seems, furthermore, to have caused some controversy. We received mails from people where they stated that they would never allow a webpage to access their cameras and others complained about the same problem in social networks. So, even though portable computers and smart phones usually have an embedded camera we wonder how reluctant people will be to let an entertainment application make use of it.

As 6 people refused to grant access to the camera that left us with 43 questions to analyze. 34.9% of those players are male, 62.8% are female and 2.3% did not answer what their gender was. The average age is 20 years old with a standard deviation of 6.9. The younger player is 10 years old and the older player is 35 years old. 46.5% of the players live in Brazil, 41.9% live in Portugal, 9.2% live in other countries and 2.3% did not answer where they live.

5. Results and Discussion

Our objective is to disseminate knowledge about Enchanted Moors se we asked players if they had already heard or read something about this kind of mythological being before the game. 46.5% of the players responded affirmatively. The remaining 53.5% of the players had never heard about Enchanted Moors before. So even though Enchanted Moors are not completely unknown to everyone, still more than half the players had never heard about them before.

However, even if 46.5% of the players had already heard about Enchanted Moors before the game, still, that does not give us an indication of the popularity of these mythical beings. So, before asking if they had heard about Enchanted Moors, we asked players to mention all the mythological beings that they know of. Elves were mentioned by 46.5% of the players and were the most popular mythological being. Only 11.6% of the players included the Enchanted Moors among their known mythological beings (Figure 4). So, even though 46.5% of the players are aware of the existence of Enchanted Moors, only 11.6% of them spontaneously included them in their list of known mythological creatures. This might indicate that there is work to be done in what refers to raising the popularity of Enchanted Moors.

After playing the game 58.2% of the players became curious to know more about Enchanted Moors (Figure 5). To disseminate the knowledge about Enchanted Moors among the general

public players suggested resorting to games, online materials like photos, texts and videos, films, theater plays, books and even interacting with local communities via projects.

Figure 4: Tag cloud with the names of all the mythological beings mentioned by the players. Font size is proportional to the number of times the creature was mentioned. The words corresponding to the top ten mentioned beings are marked with a green font color and yellow background.
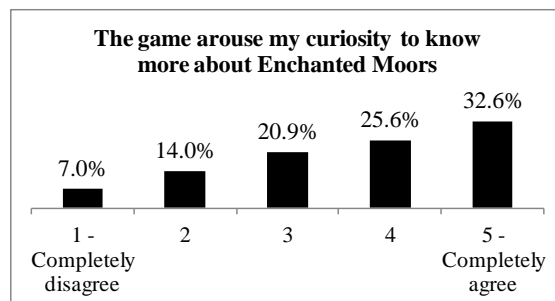

Figure 5: How much the players agree that the game arouse their curiosity to know more about Enchanted Moors.

Another of our objectives was to promote social contact among people so several questions were made to understand the context where the game was played. To break the Moor's spell it was necessary for two people to look at the Magic Mirror. This was done in order to encourage social contact among the player and another person in his or her vicinity. After the Moor's spell was broke 43% of the players would keep chatting for some time with the person that helped them in the game. So, not only is social contact necessary to win the game as for 43% of the players that contact continued for a while after the game ended. As for the person

that helped the player rescue the Moor, most of them resorted to friends and family (Figure 7(a)) and most players were at home when playing the game (Figure 7(b)).
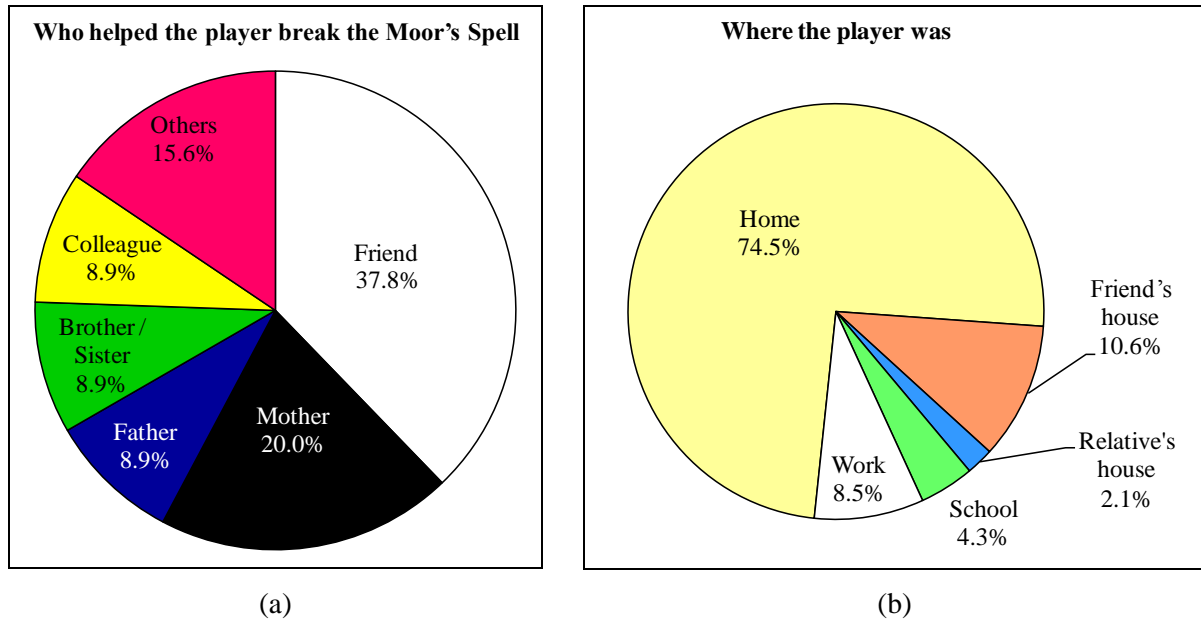

(a)   (b)

Figure 6: With whom and where the player was.

To evaluate how much the game pleased the players we resorted to the Game Flow Criteria. These criteria define how to achieve player enjoyment in games (Yongyuth et al. 2010; Sweetser et al. 2005). For each criterion, in the survey, the player indicates, in a scale of 1 to 5, how much he or she disagrees with a statement (Figure 7) and the higher the score is the better, with the exception of the level of challenge (Figure 7(b)) where players indicate if the challenge is too easy or too difficult. A too difficult challenge might cause players to shy away but a too simple challenge may be boring (Sweetser et al. 2005). For each criterion, the average score of the players' answers is presented below the corresponding graph (Figure 7).

The game managed to keep 58.1% of the players concentrated and the average score is 3.58 (Figure 7(a)). As for the level of challenge, 58.1% of the players considered the game presented a low level of challenge. Only 4.7% of the players considered the level of the challenge too high (Figure 7(b)). Perhaps other modes of play should have been provided for the ones who wished for more exigent entertainment. Also, most players (76.8%) found it easy to understand how to play the game (Figure 7(c)). This game was designed to be a casual game and results seem to reinforce the game is indeed casual because having a shallow learning curve is one of the key characteristics of casual games (Rohrl 2008). The game provided a sense of control to 69.7% of the players (Figure 7(d)). The goals were clear to 79.1% of the players (Figure 7(e)) and in, what concerns this criterion, there seems to be little

room for improvement. Furthermore, this criterion obtained the highest average (4.26) in comparison with all the others, though the level of challenge is excluded from this comparison as an extremely challenging game would not necessarily be better. As for the game's feedback, 58.1% of the players consider it was appropriate with an average score of 3.53 (Figure 7(f)). The immersion received an average score of 3.40 with 44.2% of the players feeling immersed by the game (Figure 7(g)). Finally 44.2% of the players encountered new opportunities for social interaction due to the game with an average score of 3.21 (Figure 7(h)).
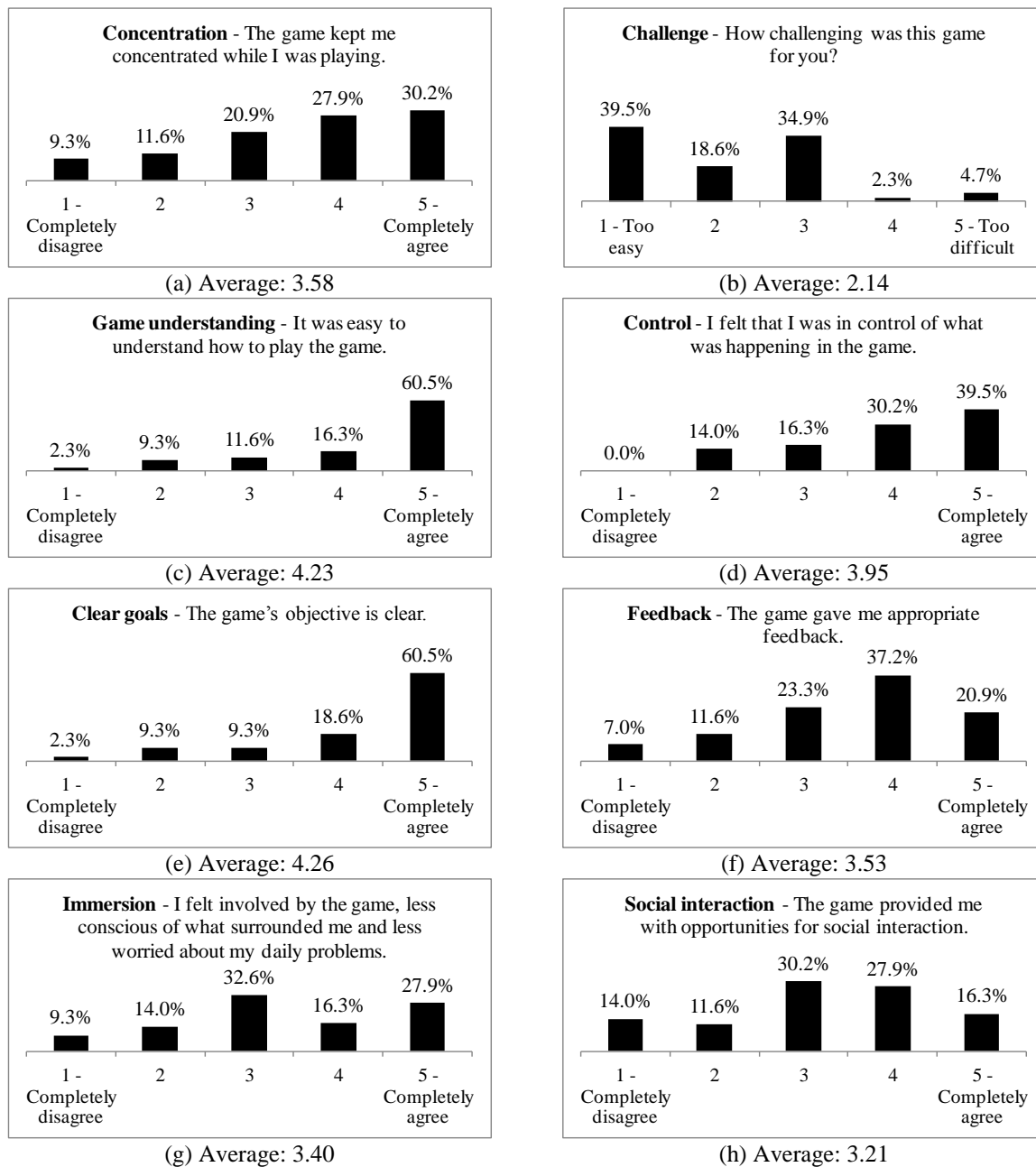

(a) Average: 3.58

(b) Average: 2.14

(c) Average: 4.23

(d) Average: 3.95

(e) Average: 4.26

(f) Average: 3.53

(g) Average: 3.40

(h) Average: 3.21

Figure 7: Game's evaluation according to the Game Flow Criteria.

The game was also evaluated resorting to Microsoft's Product Reaction Cards (Benedek et al. 2002). Players were asked to choose the expressions they felt better described the game. The five most chosen expressions were pleasant, easy to use, simple, fun and new (Figure 8).
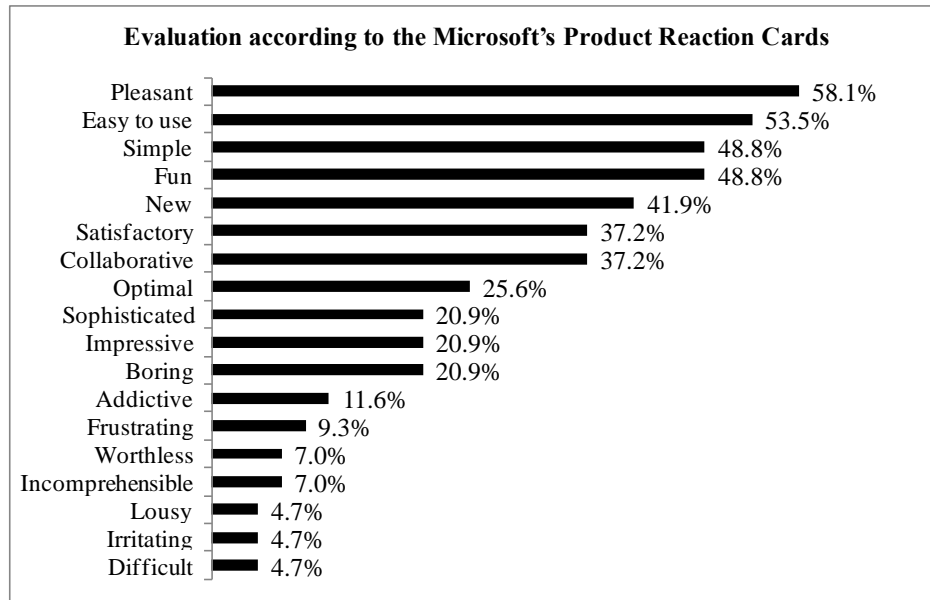

Figure 8: Expressions, from the Microsoft's Product Reaction Cards, chosen by the players to describe the game. Each player could choose more than one expression.

6. Conclusions and Future Work

A proposal to disseminate knowledge about folk tales via co-located interaction was presented. We focused on Enchanted Moors. When the Moors retreated from Iberia, during the Reconquista period (Saraiva 2007), some were left behind and to protect them from the invaders enchantments were cast. The enchantment can be broken if a mission is completed by a savior (Frazão 1982; Parafita 2006; Vasconcelos 1938). Our proposal relies on group work, as the magic energy of two saviors is required to break the spell that is trapping a Moor Princess. After playing our game 58.2% of the players became curious to know more about Enchanted Moors.

Playing digital games is often a solitary activity. However, in our game, players not only have to cooperate as they also have to be in each other's physical presence. One of our objectives was to stimulate social interaction and this objective was attained with 43% of the players as they kept talking for some while with the person that helped them break the Moor's spell. Interaction was mostly with friends and family and at home.

We are currently building a database of several Portuguese legends so that, in addition to the gold coins, the player is also offered a digital book with a legend. As future work we also plan to increase the complexity of the process necessary to save the Enchanted Moor. Players will be required to search and find magic symbols that are hidden in the forest. To win, the player will have to print these symbols that will afterwards be recognized when presenting them to the camera.

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