



# Existential video games: Proposal and evaluation of an interactive reflection about death



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## ABSTRACT

Philosophers and psychologists as well as popular media (novels, theatrical plays, movies) often propose reflections about human mortality. This paper aims at exploring how new media like video games could be used to encourage users to reflect about death, and about the impact of death awareness on their lives. After defining *existential video games* (EXGs), we propose and evaluate *Existence*, an EXG that aims to expose users to different attitudes towards death, and to encourage them to reflect about death and their own mortality. We studied the experience elicited by *Existence* through a qualitative analysis of users' interviews. Results show that *Existence* was able to elicit death reflection in participants. Furthermore, the game evoked both negative and positive emotions that, as explained by theories in social psychology, follow directly from mortality awareness and participants' attempt to cope with fear of death.

## 1. Introduction

Since Greek and Roman times, philosophers have reflected deeply on human existence as well as on the meaning and consequences of death. Existentialism, a school of thought represented by modern philosophers such as Heidegger, Jaspers and Sartre, gives a central role to the need of finding meaning in human lives constrained by the finality of death [1]. Reflection about death is often proposed also by traditional popular media, such as novels, theatrical plays, and movies. It is thus natural to think about how new media like video games could be employed to encourage users to reflect about death, and about the impact of death awareness on their lives. Video games with this purpose could be considered as a sub-genre of *serious games*, i.e., games with a purpose that goes beyond entertainment and involves education [2–5] and attitude change [6,7]. In addition, they can be a form of artistic expression [8,9]. Holmes [8] defines *art games* as interactive work by a visual artist that does one or more of the following: challenge cultural stereotypes, offer meaningful social or historical critique, or tell a story in a novel manner. Stalker [9] divides art games into *aesthetic games*, i.e., games that use the game medium to express an artistic purpose, and *agenda-based art games*, i.e., games that have some sort of ulterior motive other than aesthetics, such as bringing an issue to the public attention to attract support and understanding for a cause. However, Díaz and Tungtjitcharoen [10] highlight that it is not sufficient for art games to contain pieces of art, but they must also be able to provide an

experience of reflection outside game play, i.e., to provoke feelings and reactions in the person interacting with the game. It is worth nothing that Holmes' definition seems to restrict the scope of art games unnecessarily, since it does not mention eliciting reflection as a possible goal. Stalker, as well as Díaz and Tungtjitcharoen, instead, acknowledge the role of reflection as a purpose of art games, although they do not explicitly consider existential reflection. Various examples of art games, e.g., the agenda-based art game *Escape from Woomera* [11], have been thoroughly analyzed in the literature (e.g., [9]). Some commercial video games such as *The Last of Us* [12] and *Bioshock* [13] can be also analyzed as interactive experiences that, in addition to entertaining players, are able to elicit emotions and reflection [14,15].

This paper focuses on games which aim at encouraging existential reflection. We will use the term *existential video games* (EXGs) to indicate such interactive systems. To give a precise definition of EXGs, we resort to the psychological theory proposed by Yalom [16–18] who identifies four ultimate existential concerns that are able to drive human behavior, because people react by taking actions aimed at mitigating such concerns [19]. The four existential concerns are: death concern (i.e., the tension between the awareness of the inevitability of death and the wish to continue to be), freedom concern (in the existential meaning of freedom as “absence of external structure”), isolation concern (i.e., the tension between the awareness of one's isolation and his/her wish for contact and for being part of a larger whole), and meaninglessness concern (i.e., the dilemma of a meaning-seeking

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**Table 1**  
The considered EXGs.

Title	Concerns	Plot	Interaction
The Graveyard [28]	Death	The user's character is an elderly woman who visits a cemetery, represented in 3D grayscale graphics. For most of her life, she visited the cemetery to clean the tombs and the gravestones. She walks slowly among the graves to reach a wooden bench on which she sits. During the walk, nature sounds are played (e.g., wind blowing, birds chirping), and the user can hear the sound of footsteps on gravel. Once she sits, a song plays, narrating the stories behind the death of different persons buried in the cemetery. In the same song, the old woman acknowledges that her time to join them may soon come. In the trial version, the user can let the character sit on the bench as long as desired, and can then get up and leave the cemetery to conclude the visit. The paid version of the game includes a possible different ending, in which the elder dies while seated on the bench	The user can control the walking direction of the elderly woman in the 3D environment with the arrow keys; no interaction with objects such as tombs and gravestones is available
Every Day the Same Dream [29]	Meaninglessness, freedom	The user's character is a faceless, white-collar worker who must go through a monotonous day that keeps repeating unchanged in his life, as if it were a recurrent dream. A mysterious woman he meets daily in an elevator tells him that in five steps he will be a new person. During the game, the user can introduce small deviations in the preset path of the character, e.g., taking a different direction after exiting the elevator at the office. The user can try five different choices in five different days/dreams. During one of the days/dreams, the choice leads the character to commit suicide. In the final dream, the character is able to re-experience his suicide as a spectator, watching himself jump off the office building	The user can control the man's movement (walking left or right) in the 2D environment through the arrow keys, and can interact with some objects in the environment by approaching them and pressing the spacebar
One Chance [30]	Death, freedom	The user's character is a scientist whose laboratory has discovered a cure for cancer. However, he soon realizes that the cure ultimately kills any living cell. The cure is accidentally released out of the lab, and this will lead to the death of all living beings on Earth in 6 days. The user must decide how to spend his/her remaining days and, on the basis of the choices made, (s)he will experience different game endings. One of the possible endings shows the scientist surviving together with his daughter. The game shows disturbing scenes such as the suicide of a coworker and her wife	The user can control the scientist's movements (walking left or right) in the 2D environment through the arrow keys, and can interact with some objects in the environment by approaching them and pressing the spacebar
The End of Us [31]	Death, Isolation, Meaninglessness	The user controls a purple meteor traveling in space. After a short time, an orange meteor appears and interacts with the user. At times, the orange meteor seems friendly, "dancing" around the user's meteor. At other times, it appears hostile, bumping into the purple meteor. The user can interact with the orange meteor by moving the purple meteor or making it bump into the orange meteor. In the final part of the game, both meteors are on a collision course with Earth. The user can put the purple meteor in front of the orange one, or can hide behind it. The collision destroys the meteor in front, allowing the other to survive. The remaining meteor, worn out by the long trip, becomes greyish and its traveling speed slows down until the meteor eventually disappears, alone, below the bottom of the screen	The user can move the purple meteor towards the top or bottom of the screen as well as to the left or right, by using the arrow keys. The purple meteor can interact with the orange meteor, as well as with other space debris, by bumping into them
Drowning in Problems [32]	Freedom	This text-based game shows a list of various issues that human beings must deal with during their life. For example, the first issues the user needs to solve concern the need to learn and the need to play as a toddler. Each problem requires a certain amount of time to be solved, usually less than 5 s. Most of the successfully solved problems generate one or more resources that the user collects. Resources can be tangible (e.g., money, job, friends) or more abstract in their nature (e.g., knowledge, integrity, respect). Not all received resources look positive, e.g. stress or a broken heart, but can be considered as unavoidable burdens of life. Solving some problems (e.g., "You need to relax") consumes such burdensome resources. Some problems do not require any resource, and can be solved immediately; others require the user to collect a specific amount of one or more resources. For example, the user must collect 8 units of knowledge to "evolve" from a toddler to a child. As the user progresses, problems gradually increase in number and complexity in terms of resources required. The game touches different phases of life, involving success and failure, and eventually reaches a state of acceptance. This state is presented as another problem to solve that leads to user's death. At this point, the only resource left is hope, which is consumed once the user solves the problem "You are forgotten", restarting the game. These last two problems require a significant amount of time (more than one minute) to be solved	The user interacts with problems by clicking with the mouse on the word "solve" near them, and seeing the effects of the action; no other interaction is supported

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