

Immersion in Game Atmospheres for the Video Game Heritage Preservation

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ABSTRACT

The video game heritage is being preserved especially on the Web: comments, screenshots, sounds, videos, etc. But one important element is missing: the environment in which we play (game atmosphere) is one of our strongest memories. This article describes an investigation-based method to record game atmospheres, the four atmospheres we are archiving (one bedroom, one living room, and two game room atmospheres), the interactions allowed in these virtual environments, and some technical points about how to access these atmospheres (on the Web or thanks to a virtual reality system).

Keywords

Atmospheres, video game, preservation of the cultural heritage, virtual reality, archiving.

INTRODUCTION

The video game market is now bigger than the cinema market. This economic fact is the result of a continuous development. Indeed, while video games attract the kids, the number of adult players constantly increases. Thus, video games are a part of our culture [2, 6, 7].

The video game industry is now more than 30 years old and its cultural heritage is being preserved following two main approaches. On the one hand, there are a lot of virtual museums on the Web, and on the other hand, there are exhibitions, but they are very rare. For example, there is only one permanent exhibition (in Berlin [3]).

The video game exhibitions are very hard to set up because the hardware and the software can be too rare and can be broken down. This is why it is easier to do it virtually. On the Web, we can find information about all the games: comments, screenshots, sounds, videos, etc. We can also find game copies and emulators to run them on new computers [4, 5]. Emulation can preserve the possibility of playing and virtual museums can preserve many things around the video games, but one important element is missing: game atmospheres.

Indeed, the environment in which we play is one of our strongest memories: the place, its arrangement, the light, the other players, etc. So, how can we preserve these atmospheres? How can we add this kind of atmospheres to virtual museums and real world exhibitions? How can we

Proceedings of DiGRA 2005 Conference: Changing Views – Worlds in Play.

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connect these atmospheres with information about the games?

This article describes a method to record game atmospheres, the four atmospheres we are archiving (and the interactions allowed in these virtual environments), and some technical points about how to access these atmospheres.

A METHOD TO RECORD ATMOSPHERES

The first step of our method is an investigation. On discussion forums, we ask players to narrate their playing experiences: what they feel before, during, and after the game. We provide them with some directions concerning the perception of their environment: the place, what we can feel using our five senses, contacts with other people, etc. Using the discussion forums allows some players to enhance the others' answers.

The second step is the synthesis. The goal of the synthesis is to identify typical elements of atmospheres and to group these typical elements into representative atmospheres. During this second step, we can use other ways to find missing typical elements (for example, films).

Each atmosphere is defined by:

- a year and some words about the place,
- a list of the typical elements (lights, sounds, furniture, other objects, people, etc.),
- a picture (the layout of the place),
- a description of the interactions allowed in the virtual environment,
- a list of the games that have to be in the place.

The last step is divided into a few parts. The modeling of the objects is done thanks to 3D Studio Max [1]. Then, the assembly of these objects is done thanks to Virtools [8]. This technology also allows us to add lights and to define behaviors. During this third step, we can use freely available objects (for example, a chair).

FOUR GAME ATMOSPHERES AND INTERACTIONS

Our first game atmosphere is a bedroom in 1995 (see figure 1). The user can catch a game cartridge, put it into a Super Nintendo console, and get information about the game on the TV screen.

The second atmosphere is a small game room in 1989 (see figure 2). The user can push the buttons of the arcade cabinets to get information about the games on their screen.

The third atmosphere is a living room in 1982. The interactions are the same as the interactions of the bedroom, but the console is an Atari 2600, and now the user sees his arm catching the cartridge.

The fourth atmosphere is a big game room in 1983. The interactions are the same as the interactions of the smaller game room.



Figure 1: First atmosphere (a bedroom in 1995).

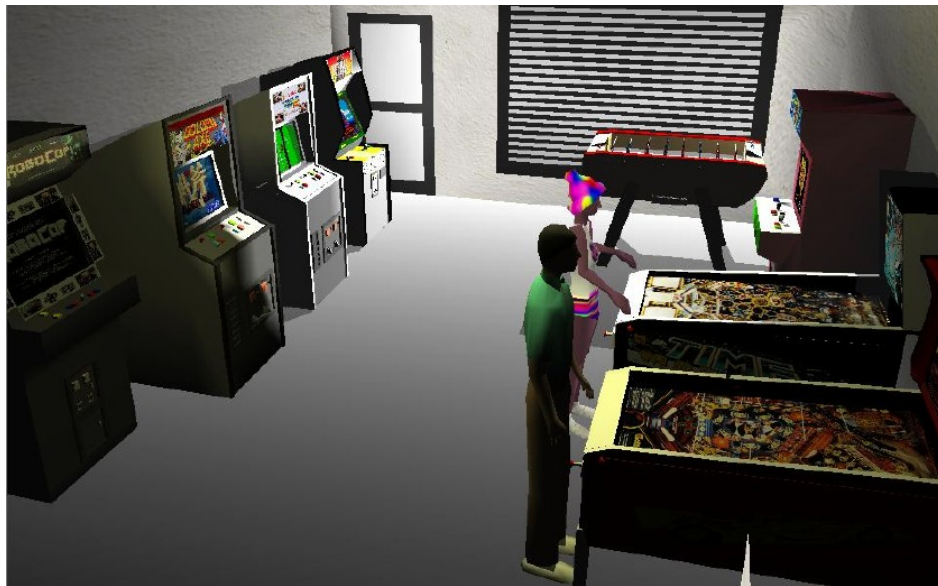


Figure 2: Second atmosphere (a small game room in 1989).

Thus, these virtual environments allow:

- immersion (if we use an immersive system),
- object manipulations (catching a cartridge, pushing a button, etc.),
- getting information (accessing knowledge).

ACCESSING THE GAME ATMOSPHERES

Thanks to the technology that we use (Virtools), the users can access these atmospheres on the Web (using the Virtools Web Player plug-in). Thus, these atmospheres can enhance existing virtual museums. But, the users can also access them using a virtual reality system (see figure 3). Hence, we can enhance an exhibition by adding game atmospheres and by linking them to the exhibition: information that we get can contain a map of the exhibition and where to find the game.

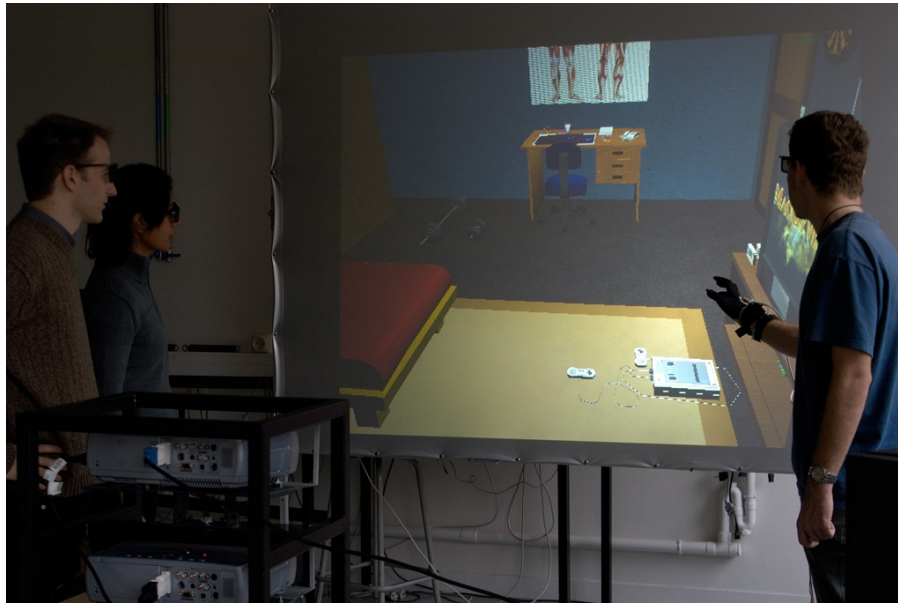


Figure 3: Example of a virtual reality system.

This is a new way to access information about games. This is not like a fast database access; it is much more like a walk through game atmospheres that brings you to games you did not look for at the beginning.

CONCLUSION

We have seen how to record game atmospheres. We have talked about the interactions allowed in our four virtual environments. And we have seen how to access them. Hence, we show how to preserve the game atmospheres.

The next step is to publish these atmospheres on an existing website dedicated to the video game heritage. Later, we will work on sharing these atmospheres (several users inside one atmosphere) and handling interactions between users.

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