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Abstract

In this paper we describe the implementation of a cooperative online game in HTML5 inspired from the successful game Portal by Valve.

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous

General Terms

Cooperative, HTML5, online game, portal

Introduction

In this project we are going to implement a 2D casual version of Portal game created by Valve in a platform style (side view) for two players. The game will require the players to cooperate to reach each levels goal and consequently proceed to the next level. The only way to reach each levels goal is having both players cooperating. The game can be played online in a web browser.

Figure 1: Insert a caption below each figure. Images can "float" around body text, like this example.

Design principles

We decided to rely on Crafty, a HTML5 game engine in order to code the game. The players first need to connect to the server hosting the game. Then, they are shown a list of players that they can play with. After inviting a player, the game is starting.

The players are immersed on the playing platform and have to reach the exit door in order to proceed to the next level. To do so, each of them has a portal and those 2 portals must be combined in order to go further into the level. What stands between the players and the exit door is a set of two kinds of walls. The "white" walls allow players to set their portal on it while the "black" walls do not allow it. This type of wall adds difficulty to the levels by forcing the players to think more carefully where they want to set their portals.

We designed the game to be casual. Consequently:

- The gameplay is very simple: you just need to use common commands to move around the game space.

- The games do not last more than a couple of minutes (and most of the time, they will only last for 30 seconds).

- Anybody can play these games as they are very simple. The fun of it comes from the communication between players but not from the complexity of the game.

- You just need to launch a web browser, connect to the web site, invite a friend, and you are playing!

Manual user
This manual user can also be found on the login page so that they know what commands to use ingame.
Use right and left arrow for walking in a direction.
Space for jumping.
Right click for opening your portal on "white" walls ("black" walls cannot be targeted).

Implementation Details

Design Evolution

During the game coding

Designing the levels

Once the game was operational, we started to work on the level design. We easily came up with 3 levels, but once they were implemented, finding new interesting designs of our own was pretty difficult. We came to understand that coding a game and actually implementing an interesting user experience are two very distinct areas. That is why we decided to stick with 3 levels as a good start for further work on the game.

Discussion and Conclusion

References

[1] Schwartz, M. *Guidelines for Bias-Free Writing*. Indiana University Press, Bloomington, IN, USA, 1995.