Avatarization Machines
From Board Games to Digital Platforms
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Avatarization process
In recent works,¹ we propose a methodological and conceptual approach to the processes related to player-avatar interactions. Our main hypothesis asserts that an avatar is involved in a dynamic and networked process and expresses itself, at the same time, through three general and connected modes – as place, interface and prosthesis:
1. As a place,² the avatar provides perceptual mobility to the user (or player);
2. As an interface, the avatar is a medium that allows (a) interactions between the player and the gameworld and (b) communications between users and avatars;
3. As prosthesis, the avatar can provide aesthetic experiences to the user. A change of the user’s habits can occur—although not necessarily—as a result of sensorial or abstract processes.

This threefold set of dynamics describes a singular process that we call the avatarization process. Instead of seeing the avatar just as a “graphical unity,” “locked” in a virtual world, our emphasis also considers the interactions between player-avatar-platforms as dynamic and emergent processes, with significant levels of complexity, but mainly in “perplexity” terms. The perplexity of thought, according to MD Magno, would include the complexity of thought and go beyond it, also regarding the
superposition of events and equivalence of processes in terms of morals and values. ³

Each of these three levels has another specific set of sublevels and amplitudes of events that should be researched, analyzed and compared through ad hoc procedures depending on the specific variables of each avatarization process.

Chess as "Avatarization Machine"

Chess is a board game with a rich and multidimensional history. The game includes masters, patterns and traditions, as well applications and contributions to many fields of research.

The gameworld of chess is produced under four fundamental elements: a) rules, b) players, c) platform (board), and d) pieces. Logical and procedural combinations between the player’s actions, game rules, board positions, and pieces, create a significant level of complexity during the game. The analysis of these dynamics shows that chess is a machine that could be a model to study and understand a number of mental processes.

What is rarely discussed about chess is the existence of an avatarization process possible for each move. Through this approach, chess is also an "Avatarization Machine," where it is possible to learn and live many skills, experiences, and situations through interactions with avatars. Mark Meadows's insight about multiple levels of interaction with avatars in chess pieces is remarkable: “Chess has avatars that exist in both the individual piece (the rook, the knight, etc.) and the perspective of the player, both from a high-level, third-person camera point of view, and from the first-person perspective of chess.” ⁴

Although I agree with Meadows, I propose a slightly different approach. It seems that an avatarization process during a chess game has, for each player, at least three fundamental degrees of placement that I call:
1. First-person view: Perspective from a singular piece;
2. Third-person view: Perspective from the player’s set of pieces, including first-person view;
3. Isometric view: Perspective from the perceived environment and background of the game, including platform, pieces (first and third-person views), rules, adversaries, and also perspectives regarding the player's life and his or her previous experience with chess.
The image above shows how the three levels of avatarization can be didactically marked and seen during a chess match, from the perspective of one of the players (Player X). But the experience of playing chess is a continuum and these levels are degrees that include each other, from first-person to isometric view and vice versa. A chess piece such as a knight has specific and irreplaceable functions, roles and values in the game. As the pieces become tactically combined, new possible paths and performances emerge. However, in order to perform a specific move of a knight, as well as to combine moves with the pieces of his set, the player needs to accept and understand chess rules. These rules involve a diverse set of processes and experiences—visually (for example, opponent’s pieces and moves) and in memory terms (for example, the captured pieces and his or her previous skills in another matches). For this reason, we should notice that the Isometric View represented above is just what we (the spectators) can see in this “temporal slice” of a specific moment during that match. The whole of Player X’s isometric view is not accessible to us from this image.
If we see the oscillation and interactions of these three scales during the game, concerning the competition and crossing of moves between players, another level of understanding about complexity in chess emerges. Each player can move a chess piece using a different level which corresponds to a strategic way of play, depending on the *hic et nunc* of the match.

Didactically, we can identify nine general scales of crossing:
1. *First-to-first*, when a player moves a singular piece regarding its specific type in relation to an adversary’s singular piece;
2. *First-to-third*, when a player moves a singular piece regarding its specific type in relation to an adversary’s set of pieces;
3. *First-to-isometric*, when a player moves a singular piece regarding its specific type in relation to the known adversary’s background and environment of play—from the singular piece in movement to his or her historical and psychological experiences during that specific game and throughout his or her life;
4. *Third-to-first*, when a player moves a piece regarding his or her own set of pieces in relation to an adversary’s singular piece;
5. *Third-to-third*, when a player moves a piece regarding his or her own set of pieces in relation to adversary’s set of pieces;
6. *Third-to-isometric*, when a player moves a piece regarding his or her own set of pieces in relation to the known adversary’s background and environment of play;
7. *Isometric-to-first*, when a player moves a piece regarding his or her perceived background and environment of play—from the singular piece in movement to his or her historical and psychological experiences during that specific game and through his or her life—in relation to an adversary’s singular piece;
8. *Isometric-to-third*, when a player moves a piece regarding his or her perceived background and environment of play in relation to the adversary’s set of pieces;
9. *Isometric-to-isometric*, when a player moves a piece regarding his or her perceived background and environment of play in relation to the known adversary’s background and environment of play.

These nine levels of placement are connected and form a continuum of aesthetic and logical experiences for each player. The continuity of human perception usually causes the player to experience a chess game only through an *isometric-to-isometric* type of crossing. As a result, during the game it seems impossible to measure what kind of pieces, positions and experiences we perceive before effectively moving a piece. Indeed, a
master chess player is marked by the ability to analyze the best levels of placement and to visualize crossings efficiently.

**Avatarization through digital platforms: analysis of PES**

The analysis of avatarization processes applied to digital platforms, personal computers, and video game consoles, also suggests a different level of complexity in relation to board games like chess. According to Rune Klevjer, there are two general and different models that define the role and nature of the player’s participation with the process of simulation in interactive platforms: *first-order*, in which the process of simulation is transparent, either because the program is designed with a special-purpose interface that allows and facilitates transparency, or because the user is allowed to (and able to) change or modify the program directly; and *second-order*, in which the process is non-transparent, and the user relates to the process of simulation only via the output that the simulation produces, with no access to the operations that produce this information.⁵

These two models explain how new levels and variables should be analyzed if we try to understand the avatarization process in a chess game played through a digital platform, against a program, or played online with a human opponent. The experience of playing conventional chess (non-digital, with human players) can be categorized as first-order simulation, while player’s participation through digital chess occurs via second-order simulation.

With some digital games it is possible to experience a dual mode of navigation or visual avatarization, with graphical bodies (or pieces) and virtual cameras. Through an analysis of the game Pro Evolution Soccer (PES), version 2010, we can see how that superposition occurs. Released in October 2001, PES is a multi-platform football video game series developed by Konami that follows a tradition of competition games that simulates soccer leagues and championships using real names of teams, players, countries, stadiums etc., from local to global matches. PES 2010 is the 9th edition in the series.⁶

In contrast with the game of chess, football has players (“autonomous pieces”) with motions that can be repeated by any “piece”—the goalkeeper has the most diverse functionality, as it can legally play with both hands and feet in a specific area. The football “pieces” are singular mainly for
their position on the field and for their particular features—for example, strength, speed, size, ability, and appearance. To be simulated in a digital game like PES, all of these variables need softwares with artificial intelligence to make a second-order of simulation intuitive and semi-autonomous to the user—otherwise it would be impossible, controlling eleven players, to defend and attack at the same time.

When we talk about avatarization through digital platforms it is necessary to choose a focus or specific scale of analysis because of the elevated degree of complexity involved. A game like PES 2010 presents many levels of avatarization, from the following perspectives: a) textual mark (player and team names), b) graphical body, c) camera type, and d) control configuration, to name a few.

An interesting PES 2010 level of avatarization is the “Camera Type” option. During a single-player game, there are two tailing camera modes and eight perspectives of camera: 1) Normal Close (Ball or Player), 2) Normal Medium (Ball or Player), 3) Normal Long (Ball or Player), 4) Wide (Ball or Player), 5) Broadcasting 1, 6) Broadcasting 2, 7) Vertical Wide (Ball or Player), 8) Player. The image below shows the same moment of a “player versus computer” match through PES 2010’s types of camera:

In terms of tactical perspective, the different cameras in PES can be used along a pre-camera understanding similarly to the three general scales of avatarization in chess: each piece (player; First Person View) is in relation to a set of pieces (team; Third Person View) and depends on the ways, intensities and manners of playing (Isometric View) that a person can support. Some camera choices can expand or limit the modes of
avatarization. For example, the Player Camera shows a visual area with less extension, through a little space of action and just a part of the set of pieces (players), in relation to the Normal Long camera. Sometimes it is better to see the whole field and all players available to receive the ball, but sometimes we just want more visual details and a vertiginous experience of play. The shifts in camera point of view can help us to improve our logical and aesthetic needs, but understanding or operating these shifts it is up to each player.

Conclusion

This paper has been an attempt to introduce and understand how the interactions between avatarization processes in a game, digital or not, can be seen in terms of perceptual scalability—reiteration and crossing between a previous position (or placement) to a subsequent one in the same process—and how these processes could make us rethink the experience of playing.

The visual perception of different scales of placement through the same avatarization process—as pieces, in chess, or through combinations between camera modes and players in PES—is neither a “natural” experience during a play, nor a necessary rule to a better gameplay. The identification of shifts in scale varies according to each player’s experience, the platform limitations, and the game itself. A player can use different scales to finish a game with success or just to create and feel new aesthetic experiences.

Understanding the shifts in scale in terms of player-avatar experience could help game designers develop platforms with different degrees of complexity and new ways of engagement—for example, implementing camera modes with more flexibility and tasks with solutions based on oscillation through scales.

Notes

In topological terms, we call place any process, phenomenon, mark, position or expression with which a person can identify, feel, perceive, and, somehow, interact. In terms of perception, the avatar is a place because of its visual mark on the screen, but it is not just a visual and static locus. Sometimes it “moves” on screen and makes new links (creating places) with data, pieces of software and players, through digital and physical processes or imaginative projections.


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