
Consciousness in Gameplay

Gifford Cheung

Information School & DUB Group
University of Washington
Box 352840
Seattle, WA 98195-2840

Abstract

Presented here are a set of design dimensions for game media. Principles are drawn from sociological theory about human action and phenomenological perspectives of technology. These dimensions are applied to understanding game elements in non-games.

Keywords

Game design, Design

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Design, Human Factors, Theory

Introduction

Gameplay principles applied to systems design require clarity about the scope and foundation of those principles. The word "Game" itself encompasses a variety of meanings – "to game a system" implies a different meaning than "it's just a game". The need for conceptual clarity becomes especially pronounced when designers endeavor to bring "game elements" into new domains such as serious games and 'gamification' of other systems. For example, are games that convey a rhetorical point still considered games if they sacrifice enjoyment? Is an electronic personal trainer considered

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a game because whimsical graphics are employed? Answers depend on an explicit understanding of what comprises a game. In the case of 'gamification', when aspects of gameplay imported to non-games, clarity allows precise discussion about intended consequences.

Dimensions of Game Media

As a contribution to the aforementioned, presented here is my developing work on design principles for game media. It is derived from a model of human action by Anthony Giddens and other writings in line with a phenomenological perspective. My goal is articulate a language of dimensions of game media. Designers ought to be able to discuss game-relevant dimensions of the medium (e.g. the interface, software, or equipment). Inspiration for "dimensions" is taken from Green's work with notations [6] where dimensions are developed as a neutral property of an object.

Foundations: A Model of Action

In this framework, a game is an activity with players and rules – most typical is a rule about a final goal, a winning condition. To play a game is for a player to act in accordance with the rules to meet the stated goal of the game. This definition is intentionally bare. Other definitions of games that include playfulness or fun can be adopted by designers, but they are explicitly omitted here. Given this definition, a starting point towards understanding game media is to understand interaction – a familiar concern of game designers [2].

Mario jumps. Master Chief strafes. The Queen checks. Gamblers fold. The Foursquare¹ user checks-in. Should

¹ Foursquare is a location-based game where players check-in to shops, venues, and locations for virtual points and rewards.

player actions be distinguished from one another? Are there particular characteristics that can be applied to in-game actions? I contend that some nuance is required for distinguishing among different actions. My solution is to rely on an articulation of human action as proposed by the sociologist Anthony Giddens [5].

The philosophy of human action is a much-discussed domain. In agreeance with other theorists of action (Dewey, Herbert Mead, and Harold Garfinkel [1]), sociologist Anthony Giddens [5] proposes a simple model: action is directed by knowledge². In the knowledge-based model, action is understood as an ongoing 'coordination' of behavior that informs a body of knowledge. Giddens emphasizes that actors "maintain a continuing 'theoretical understanding' of the grounds of their activity". For the most part, people depend on habitual actions to accomplish everyday existence: walking, eating, etc... Conscious motivations provide overall plans or programs and, granted, there are times when conscious attention and rationale are focused on precise, rationalized actions (e.g. a chess move can be very much in the forefront of a player's mind). Giddens explains that human consciousness does not have total access to one's memory. Regarding this, Giddens lists three mechanisms of recall which divide actions into three types: unconscious ones, habitual ones, and intentional ones. These recalls are:

(1) **Discursive consciousness**– "those forms of recall which the actor is able to express verbally"

² This contrasts with Crawford's model of perception-to-cognition-to-action [2], one long-since criticized for its simplistic definition of perception. Dewey argues that perception itself is an action [4].

(2) **Practical consciousness**— “recall to which the agent has access in the *durée* of action without being able to express what he or she thereby ‘knows’.”

(3) **The unconscious**— “modes of recall to which the agent does not have direct access because there is a negative ‘bar’ of some kind inhibiting its unmediated incorporation within the reflexive monitoring of conduct and more particularly, within discursive consciousness.”

This division provides three different types of action.

The first, **discursive consciousness**, the actors are capable of granting their own actions. In this case, the actor is conscious of his or her rational action. Actions derived from discursive consciousness are explainable; the actor is able to express the motivating knowledge verbally. With this transparency, there is a great sense of conscious control exhibited over these actions. The second, **practical consciousness**, is where the actor is not able to verbally express what he or she knows and how it informs his or her action, but engages in the activity in a familiar, habitual manner. These are actions that actors make that happen in the *durée* of everyday life as a part of routine or habit. Attention can be drawn to these actions, surfacing them from practical to discursive. It is not an action blocked from self-awareness like those **unconsciously** motivated.³

Habitual action proves to be an apt description for much of the activity in games. As Huizinga [8] states, game rules carry absolute authority. Rules are followed because they exist – and those rules often prescribe an expected cycle of behavior for its players. Board games, for example, have “Turn Order” sections that are quickly internalized by players into a habitual

³ I will be de-emphasizing the importance of unconscious motivation for game design. For designers, relevant game activity is practical or habitual; the unconscious, less relevant.

rhythm. Csikszentmihalyi’s flow [3], often applied to games, describes an ideal combination of awareness and habit. The negative scenario – a zoned out gambler who loses his chips in a haze – also shows the fit of practical consciousness to in-game actions.

Three Move-making Dimensions

This model allows for the introduction of 3 dimensions.

Dimension 1: Presence and Dimension 2: Readiness

The division between discursive and practical consciousness can be mirrored in the interface of the medium by the distinction between presence-at-hand and readiness-to-hand. These terms are taken from Heidegger [7], one of the major influences on Giddens’ conceptualization of consciousness. The two terms are used by interaction designers [9]) to describe human consciousness with regards to the tools that they use. A tool such as a hammer, when being used, moves away from the fore-front of one’s consciousness into a practical, unproblematic space. If the hammerer takes the time to inspect a broken hammer, then the hammer has move from readiness-to-hand to present-at-hand. It has moved from a position of practical to discursive consciousness. Dimensionally speaking, we can examine how the design of a hammer can allow for scrutiny or fit into a desired rhythm of behavior. High presence means that the medium lends well to conscious attention. High readiness means that a medium fits unproblematically into habitual use. Game rules provide an expected rhythm to measure against.

Dimension 3: Adversity

The adversity of a game environment is the degree to which its material aspects make the game more or less difficult to the players to win. A cross-country racetrack

in the Sahara is considerably more adverse than one along the Côte d'Azur due to climatic differences. Depending on the interest of the designer, adversity can be sub-categorized by different types of resource costs such as time, energy, reflexes, odds, and more.

In games, the removal of difficulty is not necessarily desirable. Instead the appropriate location of difficulty is a design goal – the desired level of presence and readiness of a device is shaped by the expectations of the designers. Conversely, the actual presence and readiness of a device will shape the way the game is played. The cognitive cost (low readiness) of manually checking into Foursquare via text messaging transforms the game contrasts with play using location-aware smartphones. As players interact with the adversity of any medium, this can shift the line between discursive and practical consciousness. Players may grow more aware of the gas in their tank when they realize that a desired Foursquare location is very far away.

Analyzing 'Gamification'

This model allows for high level questions regarding 'gamification'. Any activity that rewards smaller milestones can be seen as a goal-oriented game. Suppose an exercise program awards points to users for entering an affiliated gym. The acquisition of digital points is the goal of the game-within-the-activity. A duality of purpose arises, one for exercise, another for points. The software representing the points is present, ready, and adverse for playing the game. These three dimensions together shift the line between discursive and practical consciousness for the player. Point acquisition might be so easy that it is habitual – or so invisible that players cannot predict how they will score. In a 'gamification' context, this 'playing-line' can

be contrasted against the conscious expectations of the main activity. If the player values the points more than the activity, a dimension analysis can help answer how that plays out and can give pointers to how to create a desired balance between conscious attention to the exercise and to the game. This example is brief, but it illustrates the value of a clear player model and its fit to gaming, systems design, and application to non-gaming contexts. Compatibility with other frameworks and discussion for this developing work is welcome.

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