

Making Complexity Measurable in Practice: A Formal Analysis of Gamble-Play media

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Abstract

Over the past decade, videogames have become increasingly *gambling-like* in their design. Scientific and regulatory attempts to unravel such design seem particularly oriented towards the effects and regulatory treatment of paid-for loot boxes, favoring either measurability or complexity. Departing from gamble-play theory, this paper, therefore, attempts to make complexity measurable in practice. We conduct a formal analysis of 20 videogames that include loot boxes, social casino games, optional gambling-themed activities and token wagering by identifying and mapping interactions between their features. Having uncovered 51 features across 11 categories, we then reinterpret previously established notions of gambling. In doing so, we aim to contribute to a future-proof understanding of gambling in videogames.

Keywords

gaming, gambling, design, content analysis

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Introduction

The experience of playing videogames and that of gambling are linked in many ways, as both use chance as an underlying mechanic. In many videogames, chance inspires meaningful decision-making, aids in leveling the playing field, or stimulates serendipity (Costikyan, 2013). Over the past decade, however, particular videogames have become increasingly gambling-like in their design, demonstrating a far-reaching structural similarity and psychological affinity to gambling. This has raised concern over the impact of potentially harmful content on children and adolescents in particular, who not only spend considerable leisure time on videogames but who are also at greater risk of problematic involvement in gambling (King et al., 2010; UK Parliamentary Commission House of Commons, 2019).

To date, attempts to unravel how gambling may manifest itself in the design of videogames have shown two tendencies: one favoring measurability, another favoring complexity. In terms of measurability, legal examinations have revolved around regulatory dichotomies, using simplified measures that do not always capture the intricacies of modern videogame design (Brock & Johnson, 2021; Whitson & French, 2021). Contrarily, in terms of complexity, sociology and cultural studies have produced descriptive and theory-driven analyses that may fail to offer operationalized handholds for researchers in other fields (Albarrán-Torres, 2018). This has made it difficult to compare the results of different studies to one another or to develop an integrated framework that reconciles the insights produced within different disciplines relevant to this phenomenon.

In the current paper, therefore, our goal is to bridge the gap between these two tendencies by introducing a middle-level approach to the analysis of gambling-like design in videogames. Specifically, we draw inspiration from formal game analysis (Lankoski & Björk, 2015) to perform a qualitative content analysis of gamble-play media (Albarrán-Torres, 2018) that are regulated as ‘videogames’ or ‘social games’. Our argumentation will be developed in three steps. First, we single out three *measurable* elements of gambling – consideration, chance, and reward – that enable the description of a wide variety of gambling-like designs. Second, building on these elements through game design insights, we identify gambling-like design features in a sample of twenty contemporary videogames and subsequently map interactions between said features in three exemplar cases. Third, we discuss our findings by reinterpreting the aforementioned elements of gambling. We then conclude by reflecting on the implications, promises, and shortcomings in making complexity measurable in practice.

Literature Review

Distinguishing Gambling-Like Elements in Videogames

While a number of early examinations of videogames have drawn from gambling studies (albeit with a distinct focus on pathology; see Griffiths & Nuyens, 2017),