

The Systems and Methods of Game Design

Pedro Pinto Neves ^{1,*}  and Nelson Zagalo ² 

¹ HEI-Lab, Department of Film and Media Arts, Lusófona University, 1749-024 Lisbon, Portugal

² DigiMedia, Department of Communication and Art, University of Aveiro, 3810-193 Aveiro, Portugal; nzagalo@ua.pt

* Correspondence: pedro.neves@ulusofona.pt

Even a cursory glance at scholarly literature from over a decade ago related to games can show authors variously prefacing their contributions with explanations of the newness of games, the impressive growth of the digital games industry, and the interdisciplinary nature of games. Currently, there is hardly any need for this sort of prefacing. Games need less of an introduction because we live in world where the reach and impact of games has become overwhelming as to be practically self-evident, and their transformative potential has become easier to argue. However, acceptance of the potential of games has not been matched by consolidation in delivering this potential.

In this Special Issue of *Information*, three full papers seek to contribute towards games research by finding an exit to its problem of consolidation. Two of the papers propose changes in how knowledge is generated in relation to games, both in the context of the design process for individual games as well in a broader disciplinary context, while the other paper proposes an update to a well-established game design and analysis framework. All the papers aim to contribute to advances in game design methods related to how methods relate to the systems of game design.

A cursory glance at past and current scholarly literature related to games can easily show that researchers have not been idle, with a continuing succession of studies, models, and analysis across a number of disciplinary fields and perspectives. However, the same cursory glance can also show a lack of consolidation in how research efforts across different fields and perspective stop short of a common basis for understanding and advancing games. Games are no longer new; where newness might have once helped explain the fragmented nature of games research, this no longer applies. Dedicated game programs at universities have been around long enough that a crop of doctoral researchers trained in these programs have begun to emerge, as opposed to being trained in more general programs and moving to a games-related focus. If newness is not the answer, perhaps the lack of consolidation in advancing game design can be more clearly understood at the level of how knowledge is generated in games research and practice. A breakthrough may be around the corner as universities and funding organizations learn to recognize the value of games as interdisciplinary concerns in their own right, and game design takes on more of the burden of framing games research, where this burden was traditionally carried by game studies. This breakthrough will require changes in the approach to generating game design knowledge at the level of methods and systems. The three full papers selected for this Special Issue of *Information* can contribute in supporting this breakthrough.

The first paper is titled “Game Design as an Autonomous Research Subject,” and it is authored by the guest editors for this Special Issue. This paper looks at the problem of consolidation in delivering the potential of games and in advancing the understanding of games from a methodology lens. However, the paper does not offer a novel method; instead, it defines and proposes a novel design criterion as an option for evaluating game designs and, to an extent, defining games. This design criterion is the Dynamic Analog Dilemma in that a game should, as a basic feature, offer a particular dynamic analog dilemma to the player and that every game design can be considered as a particular



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expression of how to offer this kind of dilemma. The contention in the paper is essentially that, given the amount of effort that has been invested in the development of a variety of methods and models for game design, there ought to be far better methodological support for activities such as teaching game design or the development of serious games. The paper contributes a distinction between peripheral and core game design methods in order to examine the understanding of games as having focused on narrower and more specialized knowledge at the expense of consolidation of fundamentals, thus weakening methodological support.

The paper examines related work in games research that places game design at the center of understanding games and in a design-led breakthrough in games research. However, where this related work has a more ambitious interdisciplinary, metadisciplinary, or computational scope, the paper takes on a more “back to basics” approach. The paper proposes to step back from advanced formulations that are descriptively valuable with the argument that a focus on descriptiveness has prevented the necessary systematization of design knowledge. Instead, the paper offers a formulation that is specifically designed to be less descriptively rigorous in a way that makes it more convenient for regular ordinary application to design work or teaching, essentially sacrificing descriptiveness for prescriptiveness. The hope is that the proposed criterion leaves games better prepared for the impending design-led breakthrough.

Where the first paper seeks prospective benefits that extend to teaching game design, the second paper in this Special Issue of *Information* has far greater pedagogical focus and, indeed, treats game design education as an exit to the consolidation problem in games. The second paper is by Christopher Aaron Barney (Northeastern University, USA) and is titled “Application of Pattern Language for Game Design in Pedagogy and Design Practice.” The paper follows from Barney’s book “Pattern Language for Game Design” [1], which is directed at both game design educators and practitioners. In this book, Barney frames and describes his approach to game design pattern languages. There have been multiple pattern languages for game design, and the pattern format held promise in overcoming the longstanding methodological gaps in game design. However, no pattern language has found sufficient traction to fulfill this intended role. Barney’s approach is a back-to-basics approach in that it reasserts certain principles found in the original design pattern language (in the field of architecture) which had been more or less eschewed in game design pattern development. Barney’s book was written following the actual use of his pattern approach for teaching game design at the university level and mentions aspects of this use while also providing a series of exercises for teaching game design through pattern writing and pattern-language building. Barney’s paper in this Special Issue is a more detailed write up of his experiences teaching by using his approach, evaluating student outcomes and describing in detail pedagogical tools such as a pattern entry database.

Between his book and his article in the Special Issue, Barney essentially proposes that methods such as game design patterns have failed due to attempting to solve the methodological issues in games before the discipline and game design practitioner cultures were ready. Barney means to act on the discipline of game design itself. This is in line with current efforts towards breakthrough in game research, which also operate at a disciplinary and interdisciplinary level. Barney’s patterns are about making new game designers accustomed to using methods such as patterns in order to slowly but surely reach the point where the discipline is ready for patterns to fulfill their intended role, as part of the design-led breakthrough in thinking about games. The account of actual teaching by using Barney’s approach is a valuable insight into the pedagogical front of this breakthrough.

The final paper in this Special Issue of *Information* is by Rogério Junior and Frutuoso Silva (University of Beira Interior), titled “Redefining the MDA Framework—The Pursuit of a Game Design Ontology.” This paper intends to improve applicability of game design methods, essentially contributing to more design-led thinking about games, much like the other two papers in this Special Issue. Unlike the other two papers, Junior and Silva take the more direct approach of outright proposing a method framework. This framework is the

RMDA or Revised Mechanics Dynamics Aesthetics, as an expansion of the existing MDA framework [2], which is meant to achieve widespread use of a of a game design ontology, which is a longstanding goal in games research. While MDA is well-known by games researchers, Junior and Silva point out that it is not used by game practitioners. RMDA is offered not only as an extension of MDA but also a clarification of the relationships between player and system, multiplying the categories for classification in MDA and adding streams in this relationship in order to better support design tasks such as, for instance, defining entities in the game or systematizing within the RMDA framework concerns such as the market, team expertise, or project cost. This allows Junior and Silva to propose how their RMDA can be put to use in a game design project, from high-level project scope constraints to the choice of particular mechanics where one frames the other and vice-versa. This is essentially taking the descriptiveness of MDA and pushing the prescriptiveness with RMDA as a contribution in steering the field away from its more established tendencies and towards design-led breakthroughs.

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References

1. Barney, C.A. *Pattern Language for Game Design*; CRC Press: Boca Raton, FL, USA, 2020.
2. Hunicke, R.; Leblanc, M.G.; Zubek, R. MDA: A Formal Approach to Game Design and Game Research. In Proceedings of the AAAI Workshop on Challenges in Game AI, San Jose, CA, USA, 25–29 July 2004.