

Narrative Driven Design: A systemic approach to emergent narrative

Malcolm Ryan

Department of Computing
Macquarie University
NSW Australia
malcolm.ryan@mq.edu.au

Robin Dixon

Department of Theatre and Performance Studies
University of Sydney
NSW Australia
robin.dixon@sydney.edu.au

ABSTRACT

The role of narrative in games has been hotly discussed over the past decades of game design. Inevitably we have come to recognise that there are many different ways that games and stories interact, from static scripted designer-driven narratives, to freely improvised player-driven narratives. In this paper we wish to address a middle ground of systemic, emergent narratives that arise from the dynamic interaction between the players and the rules. We outline a *narrative-driven design* approach for the creation of such gameplay systems, in which the designer begins by analysing a desired narrative as if it were a game being played.

Keywords

game design, emergent narrative, systems, mechanics, poetics

INTRODUCTION

Emergent narrative is a term frequently used for the narrative created through the interaction of a player with the mechanics of a game (Louchart et al 2008, Sweetser 2008), in contrast with *scripted* narratives that are directly authored by the designer and provide less freedom to the player. In a scripted narrative the units of interaction are coarse, and loaded with individual narrative significance. In contrast, emergent narratives are “not pre-structured or pre-programmed, taking shape through the game play” (Jenkins 2004, 128). The player’s choices are more numerous and have finer granularity. It is only through the *aggregation of choices* that they gain narrative meaning (Sicart 2013, 104).

Unfortunately, the term “emergence” is often used with an air of mysticism, as if it can only be achieved through a miracle of serendipity. When it works, it can feel remarkable in this way, as an abstract pattern emerges from the details of a low-level system (Schelling 1971, Bedeau 1997), however this doesn’t mean that emergence cannot be explicitly designed. We prefer to speak of *systemic* narrative, constructed through the deliberate design of dynamic game systems, exhibiting patterns recognised by the player as narrative structure (LeBlanc 2006).

Proceedings of DiGRAA 2019: What’s Next?

© 2015 Authors & Digital Games Research Association DiGRA. Personal and educational classroom use of this paper is allowed, commercial use requires specific permission from the author.

NARRATIVE-DRIVEN DESIGN

Our approach to narrative-driven design is one of reverse-engineering. Starting with examples of the stories we wish to tell, consider them as games being played by their characters. What are the rules of this game? In particular:

Beliefs: What do the characters believe (rightly or wrongly) about the world?

Desires: What do the characters desire?

Actions: What actions can the character take

Outcomes: What outcomes could result?

Conflict: What conflict do the characters experience? How does it arise from their desires and their knowledge of the world?

In asking these questions, we focus on the low-level material rules that create the dramatic structure of the narrative. By reverse-engineering these rules, we can put the player in the shoes of a character, recreating the same dramatic moment without directly scripting it.

For example, consider the following scene from the story *The Tale of Peter Rabbit* by Beatrix Potter:

[Peter] rushed into the tool-shed, and jumped into a can. It would have been a beautiful thing to hide in, if it had not had so much water in it. Mr. McGregor was quite sure that Peter was somewhere in the tool-shed, perhaps hidden underneath a flower-pot. He began to turn them over carefully, looking under each.

Presently Peter sneezed—'Kertyschoo!' Mr. McGregor was after him in no time.

And tried to put his foot upon Peter, who jumped out of a window, upsetting three plants. The window was too small for Mr. McGregor, and he was tired of running after Peter. He went back to his work.

(Potter 1902)

What is the game being played here? Consider Peter and McGregor as players. To answer our previous questions:

Beliefs: McGregor knows Peter is hiding but is uncertain where. Peter knows the farmer is getting closer, but is uncertain about whether he will be found.

Desires: McGregor wants to catch Peter, but also wants to get on with his work. Peter desires to be free and to elude McGregor.

Actions: Peter can either stay hidden or run. McGregor can keep looking, or go back to his work.

Outcomes: If McGregor chooses the place where Peter is hiding, Peter will be revealed and caught. If Peter runs, there is a (small) chance that he will safely escape, or else be caught. The longer Peter stays in hiding, the greater the chance that he will sneeze and McGregor will know where he is.

Conflict: The conflict for Peter is whether to keep hiding in the hope that McGregor will give up the search, with the risk of sneezing and being discovered, or else to run, knowing he will be revealed but hoping to escape anyway.

We can now see how a game could be designed to provide the same dramatic narrative:

1. Peter's player selects one of several hiding places, without McGregor knowing.
2. On each turn, McGregor's player can look in one of the places or go back to work.
 - a. Each turn spent looking has a cost to the farmer, to be weighed off against the reward of finding Peter.
3. Peter can choose on any turn whether to stay hidden or run.
 - a. If he chooses to run, there is some probability he either escapes (win) or is caught (lose).
 - b. If he stays hidden, there is a chance he sneezes, giving the farmer information of where he is hiding.

CONCLUSION

This is a simple example, but it illustrates the process of crafting a narrative through systemic design. Our ambition is to grow a new poetics of games as narrative machines, an in-depth study of storytelling through the artful design of mechanical gameplay systems.

BIBLIOGRAPHY

Bedau, M. A. 1997. "Weak emergence". *Noûs*, 31(s11), 375-399.

Jenkins, H. (2004) *Game Design as Narrative Architecture*, in *First Person: New Media as Story, Performance and Game* (Wardrip-Fruin, Harrigan, Eds), 118-130 Boston: The MIT Press.

LeBlanc, M. 2006. "Tools for Creating Dramatic Game Dynamics", in *The Game Design Reader: A Rules of Play Anthology* (Salen & Zimmerman, Eds), 410-437, Boston: The MIT Press.

Louchart, S., Swartjes, I., Kriegel, M., & Aylett, R. 2008. "Purposeful authoring for emergent narrative" in *Joint International Conference on Interactive Digital Storytelling* (pp. 273-284). Berlin Heidelberg: Springer.

Potter, B. 1902. *The tale of Peter rabbit (Vol. 1)*. Pioneer Drama Service, Inc.

Schelling, T, 1971. "Dynamic Models of Segregation". *Journal of Mathematical Sociology*, 1(2). pp 143-186.

Sicart, M. 2013. *Beyond choices: The design of ethical gameplay*. Boston: The MIT Press.

Sweetser, P. 2008 *Emergence in games*. Boston: Cengage Learning.