

The Ontology Project for Interactive Digital Narrative

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Abstract. Interactive Digital Narrative (IDN) is an interdisciplinary field in which long established perspectives (literature studies, narratology, oral storytelling practices) and newer views (computer science, communication and digital media studies, artificial intelligence) intersect. This variety of traditions creates difficulties for the exchange between researchers originating in different fields. While some common terms have emerged, a richer shared vocabulary would provide great benefits for the field. However, it is crucial for new vocabulary to be widely accepted. Consequently, we propose a community effort to develop an IDN ontology, inspired by similar efforts in game ontology [1, 2]

Key words: Narrative Ontologies, Interactive Digital Narrative, Interactive Digital Storytelling, Narrative Analysis, Narrative Categories

1 Introduction

In the long tradition of analyzing narrative – from Aristotle’s *Poetics* to the formalizations of structuralist and post structuralist narratology – a rich descriptive vocabulary has emerged. However, as Nitsche argues, “the range of interpretations of [narratological] terms has become so great as to be potentially confusing” [3] in the context of Interactive Digital Narrative (IDN). At the same time, existing terminology does not support the level of granularity or precision required for deep analysis of procedural digital media artifacts. Consequently, researchers routinely face the need to redefine and clarify the vocabulary they adopt. Indeed, Nitsche in the same volume also redefines ‘plot’ [3] in a way that diverges from more traditional perspectives. This practice is far from unique in the field of IDN research, and we observe the use of terminology that is in part borrowed from game journalism, in part reinterpreting legacy concepts, and in part invented anew.

We engage in this discussion through an ongoing multidisciplinary research effort to develop categories and vocabulary for achieving an analytical understanding of the

differences and similarities between narratives based on static artifacts and narratives based on dynamic digital forms where users can influence and direct the actualization. We argue that turning to concrete exemplars is a highly effective way to produce new analytical terminology and, for this reason, we launch an effort for developing a bottom-up IDN descriptive ontology.

2 Developing an Ontology for IDN

Following previous work on videogame ontologies [1, 2, 4, 5] and similar typologies [6] this workshop proposes to establish the grounding for a formal and explicit specification of IDN as a techno-cultural phenomena.

Due to its historical diversity and intersections with other interactive entertainment forms, the identification and understanding of the specific aspects of IDNs has become a complex problem over the years. The Games & Narrative group has addressed these problems in their previous workshops and publications [7-9]. While our earlier efforts were directed primarily towards the development of broad categories, the IDN Ontology Project aims at a granular, descriptive level, to develop tools designed for a precise classification of artifacts. In videogame studies, similar problems have been addressed through ludo-ontologies which asked “what a videogame is” by specifically identifying important structural elements of games and the hierarchical relationships between these elements. For an example see table 1.

Name	To Own
Parent	Entity Manipulation
Children	To Capture, To Possess, To Exchange
Description	<p>Entities can own other game entities. Ownership does not carry any inherent meaning, other than the fact that one entity is tied to another. Changes in ownership can not be initiated by the owned entity. Ownership can change the attributes or abilities of either the owned or owning entity. Ownership can be used to measure performance, either positive or negative. Ownership is never permanent; the possibility of losing ownership separates ownership from an inherent attribute or ability of an entity. Ownership of an entity can change in variety of ways, including voluntary and involuntary changes of ownership.</p> <p>It is important to note the difference between owning an entity, and using an entity. For example, in <i>Super Mario Bros</i>, when Mario collides with a mushroom, the mushroom is immediately used and removed from the game world. Mario never owns the mushroom.</p>
Strong Example	In <i>Super Mario World</i> Mario can collect mushrooms (or fire flowers or feathers) to use later. Mario owns these entities and can make use of them later.
Weak Example	In <i>Ico</i> , the player character must protect a girl called Yorda. While the player only directly controls Ico, his actions are very closely tied to leading, guiding and protecting Yorda. One could argue that Ico, in effect, owns Yorda because of the way they are tied to each other.

Table 1: Example Ontology Entry - "To Own" from Zagal et al [1]

This foundation was also a starting point for defining the relationship between videogames and other cultural phenomena. Such a framework contributing to a vocabulary for analyzing and critiquing all kinds of games should not be perceived as ‘a static and monolithic source’, instead the ontology projects needs to be continuously criticized and function in a dynamic and ever-changing manner. [2, 10] In a similar vein, this workshop will work towards a formal specification of IDN as a techno-cultural phenomenon.

To understand IDNs better we need to ask similar questions. What are the elements that constitute an IDN? How are they related? How do they work together? Can they be found in other phenomena? What is the relationship between IDN and similar phenomena, which share these elements? And last but not least, how can we observe the transformation and development of IDN over time through these elements? In answering these questions we also have to study and discuss the methodologies and findings of ludo-ontologies due to the similarities of both forms.

3 Workshop Format

The half-day workshop kicks off a wiki on the *Games & Narrative* website [11], open for contributions by researchers worldwide, using the questions listed above as its starting point. A Research-through-Workshop (RtW) approach will be employed to produce insights through collective brainstorming online via the wiki and *in situ* at the conference. The RtW methodology will be similar to that used in the organizers’ previous workshops.

Participants will be invited to prepare brief examples, which will be discussed at the workshop. The organizers will start the workshop with short introductions, before leading into presentations of examples from workshop participants, and continuing with brief directed discussions, collaborative sketching and reasoned comparisons. The process places emphasis on the informal aspects of these discussions, is programmatically open-ended, and will produce raw data, which will be accessible to the research community through the public wiki.

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