

Nonlinear Storytelling in Games: Deconstructing the Varieties of Nonlinear Experiences

By [SHEROL CHEN](#) | Published: AUGUST 27, 2009



What is “the mark of the narrative”? In chapter 1 of her [book](#), Marie-Laure Ryan, discusses the transmedial nature of narrative and gives a broad definition provided by H. Porter Abbott: Narrative is the combination of story and discourse. I believe the distinction of story and discourse is quite novel and under-appreciated in the area of interactive storytelling. For the purposes of this discussion, I'd like to deconstruct the nonlinear in narrative to give deeper insight into what this relationship between story and discourse actually entails. The term nonlinear takes many meanings depending on context, which is a result of the complexity in the meaning of both story and discourse.

(Spoilers for Facade in the following sections.)

Level 1 – Story-level Nonlinear

Do ‘stories’ ever start where they start? For the most radical sense of nonlinear, the answer is almost always: no. The only types of “narrative” that would fit into such a pure definition would be in games like Spore or a documentary on the beginning of the universe. Stories that start at the beginning of time build an easy case for telling a story from beginning to end; otherwise, there is always something that can be presumed about a character's history or the history of a conflict, no matter how reasonably early you start the story. If it is assumed that any presumable details are substantially irrelevant, then it must also follow that the subsequent sequence of events must be conveyed in the order of which they occur; otherwise, the story is nonlinear.

In a previous post, I wrote about [amnesia in games](#). The wide use of amnesia in games and other forms of media is a typical indication of this story-discourse distinction— that a character with amnesia, similar to the audience, ‘starts’ with no

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prior knowledge of events, implying that, at the start of the presentation, events have already occurred. On the other hand, the narrative convention of *simulacra* could also be used to disregard any past details and maintain linearity.

A more concrete example of the story-discourse discrepancy is in the interactive narrative *Facade*. In real time, this interactive experience lasts about 10 minutes of present time, but recollects, perhaps, a decade of dramatic history. I would say that the story-level **non-linearity** is, first, apparent in the large amount of undisclosed back story. Secondly, the subsequent events to follow tell the story of the user character learning about Grace and Trip's relationship from various points in time.

Level 2 – Discourse-level Nonlinear

A more typical use of nonlinear narrative is (according to [wikipedia](#)): “*Nonlinear narrative or disrupted narrative is a narrative technique, sometimes used in literature, film and other narratives, wherein events are portrayed out of chronological order.*”

I find that breaking chronology is one type of nonlinear, but the linearity of a story depends on more than just the temporal. It is also a product of the space or perspective that the story is being told. One could string together a sequence of events such that they are in chronological order, but yet alternate in telling the history of China and the history of Rome. Temporal and perspective disruptions actually permeate through all 3 levels non-linearity, but for simplicity sake, the distinction will be made on the discourse-level.

Temporal

In the wikipedia definition, the use of ‘chronological’ restricts linearity to be dependent on ordering and time. It follows that the [timeline of nonlinear films](#) ambitiously lists a number of movies that are told with broken chronology. In the previous section, I describe most narrative as nonlinear. In this section, it is more likely to find linear occurrence, because on the discourse-level, nonlinearity is more mildly applied. For example, in the absence of time travel, human beings live linear existences (both by perspective and temporally), but the way in which we discover the world, learn about history, and recollect the details of a drunken evening is entirely non-linear. In that sense, a given narrative can be both linear and nonlinear at the same time.

Perspective

In movies, it is rarely the case that the perspective of one single character is followed. There are two types of linear perspective. First, if a narrative follows the experience of a single character. Second, if a narrative is given from a global perspective and tells the story as a series of tightly coupled events in relevance. Linearity, at this level, can come in all sorts of granularity, but to be wholly linear a narrative must be chronological with an unbroken perspective, whether biased or objective.

In regards to both the temporal and the perspective, *Facade* is clearly **linear** on the discourse-level. You enter the apartment, you leave the apartment, and your experience is not disrupted neither temporally nor are you ever separated from your initial perspective.

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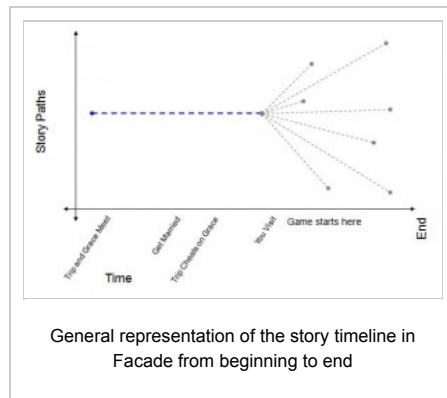
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Level 3 – Interaction-level Nonlinear

The common use of nonlinear in games is (according to [wikipedia](#)): “A game with nonlinear gameplay presents players with challenges that can be completed in a number of different sequences. Whereas a more linear game will confront a player with a fixed sequence of challenges, a less linear game will allow greater player freedom.”



A more narrative [definition](#) is: “In video games, the term nonlinear refers to a game that has more than one possible plotline and ending, leaving the gamer to take the path that most suits their style of play. This increases replay value, as players must often beat the game several times to get the entire story.”

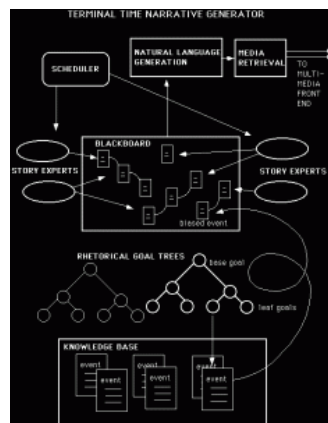
Clearly, Facade was created with an extremely **nonlinear** gameplay in mind, but only for 10 minutes of content. In those 10 minutes, the user can potentially reference a predetermined past that spans a number of years.

Application

In understanding the relationship among narrative properties, such as, story, discourse, perspective, rhetoric, and presentation, systems have been tailored to turn convention into technology. Briefly, I will conclude with applications in [Terminal Time](#), the [Oz Project](#), and future thoughts.

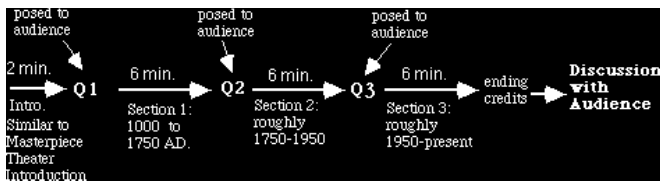
Terminal Time

The Terminal Time Artificial Intelligence architecture is based on 3 major components: knowledge base, ideological goal trees, and story experts. The knowledge base is a vast knowledge web... Ideological goal trees are utilized to choose and join historical events found in the database in accordance with viewer responses. Story experts utilize narrative conventions to plan, compose and evaluate final story texts.



The story of Terminal Time is represented by the predesignated time periods shown on the timeline below. The presentation is determined by the audience interaction and manipulation done through the ideological goal trees.





The Oz Project

Figure 1 shows the Oz system architecture. The architecture includes a simulated physical world, several characters, an interactor, a theory of presentation, and a drama manager.

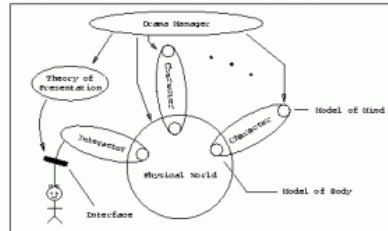


Figure 1. The Oz System Architecture

A model of each character's body and of the interactor's body are in the physical world. Outside the physical world, a model of mind controls each character's actions. The interactor's actions are controlled by the interactor. Sensory information is passed from the physical world to the interactor through an interface controlled by a theory of presentation. As shown, the drama manager influences the characters' minds, the physical world, and the presentation theory.



The Oz Project uses a drama manager to direct interactions, not merely through a dramatic experience, but through a high evaluating dramatic experience. A presentation module is directed by the drama manager to appropriate story elements to

the user. Presumably, the 'story' is loosely represented in the "World."

Future Thoughts

From the deconstruction on nonlinear, there are clear distinctions and layers of narrative to consider. These distinctions, I'd like to, for now, describe briefly as:

- The **Objective** layer is a formalized representation of events, event artifacts, and existents.
- The **Perspective** layer is a formalized representation of operations, motivations, and reactions of intelligent existents.
- The **Investigative** layer is a formalized representation of observable or retrievable information from artifacts and existents. Anything intelligent or influenced by something intelligent would carry manipulated information.
- The **Presentation** layer is a formalized representation of discourse.
- The **Interactive** layer is a formalized representation of the manipulation of discourse.

Further analysis is especially relevant to the study of procedural and generative storytelling. To be able to formalize and model these aspects of story and discourse presents new avenues in the ways we can use technology to tell

stories, but also breaks these endeavors into smaller problems that can be addressed and reassembled.

....Making what is possible, practical.



About the author: Sherol is a PhD student with interest in telling stories through games. She loves Jazz music, Jesus, and had a crush on Super Mario when she played her first video game at the age of 5.



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benjamin boyce

Posted August 27, 2009 at 10:39 PM | [Permalink](#)

have you looked at the formalists' distinction between story and plot? these two terms elegantly theorize the events fin a story from their description and arrangement. Also perhaps see "Lemon" on narrative in "history and narrative reader" peace-

ben



Sherol Chen

Posted August 27, 2009 at 11:35 PM | [Permalink](#)

ben,

The distinction between "a sequence of events" and "the representation of a sequence of events," I've heard made in various ways. Currently, I'm reading H. Porter Abbotts book "The Cambridge Introduction to Narrative."



Mark J. Nelson

Posted August 31, 2009 at 8:54 PM | [Permalink](#)

They don't seem to have produced trackbacks, but this post apparently inspired [a discussion](#) about nonlinear narrative from a grad student in English Literature & IT at Umea University; and was also [featured](#) on jawbone.tv, which appears to be a newish magazine/portal about storytelling.



aoleon

Posted September 4, 2009 at 1:04 PM | [Permalink](#)

I think non-linear story telling is a very interesting subject, as the very best games out there have compelling stories, however they are not so limited as to being too "linear" in nature. I think good examples would be games like Deus EX or Fallout 3 where your outcome can change and the story can change based on your actions in game.

The challenge is to make the story interesting while not limiting your options as the main character. Technically this is very difficult and labor intensive, as no one has yet

invented a computer algorithm to dynamically generate story lines and dialogue based on character actions in game – maybe some day this will happen.

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