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Digital Storytelling: An Alternative Instructional Approach

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Digital Storytelling has proven to be a powerful and flexible tool for a range of academic applications, from course design and development to construction of student narratives. However, in its traditional form, it is best suited to output of projects as non-branching digital video. We look at an instructional approach to digital storytelling that can accommodate multiple output options, as well as branching structures, and do so within a span of time comparable to more traditional alternatives.

Introduction

While multiple origins can be identified for the practice of digital storytelling, the work of Dana Atchley in the early nineties, and in particular, his work on *Next Exit* (online at <http://www.nextexit.com/nextexit/nextframeset.html>) was a key foundational moment. For *Next Exit*, Dana Atchley created a total of seventy short stories, each of them associated with a set of prerecorded digital elements. In performance, Atchley selected a subset of the stories, and merged them with his own live narration and audience interactions, resulting in different storytelling paths on different days. Subsequently, he teamed up with Joe Lambert and Nina Mullen to create what would become the Center for Digital Storytelling (CDS), which translated some of the original ideas into a systematic process to allow individuals to use the tools of digital video to tell their stories. My work builds on the foundation created by the CDS, extending it into media domains other than video, while at the same time reintroducing some of the elements of story branching and interactivity that were present in Dana Atchley's original work.

The Center for Digital Storytelling Approach

The CDS' approach focuses primarily on the process of assisting individuals in sourcing and shaping personal stories into a form suitable to the creation of digital video objects from a mix of still images, narration, and musical soundtrack. In particular, seven narrative elements are highlighted and discussed as part of the process of constructing a multimedia story - they are (Lambert, 2006):

- A point (of view)
- A dramatic question
- Emotional content
- The gift of your voice
- The power of the soundtrack
- Economy
- Pacing

These conceptual elements, coupled to some basic instruction in the use of digitizing and video editing tools, have proven to provide a solid basis for digital storytelling by individuals who are newcomers to both storytelling in general, and the technologies involved in particular.

An Approach Integrating Structure and Medium:

While the CDS approach has been highly successful, it opens the door to many questions. Among these:

- How should digital storytelling be approached for other, non-video media?
- Can greater interactivity on the part of the viewer be brought into the picture?
- Are there alternative approaches to the construction of the storytelling narrative that could match different storytelling goals, especially in the academic arena?
- Can some of the implicit assumptions made by authors, based upon their intuitive knowledge of popular culture be made explicit, so that alternative paths to storytelling might result?

In order to address these and related questions, I have constructed an approach that integrates a progressively deeper understanding of the structures involved in digital storytelling with a parallel progression through different storytelling media. In turn, each of these stages corresponds to a particular toolset, suitable for use by a newcomer to the medium. The progression may be seen in Figure 1:

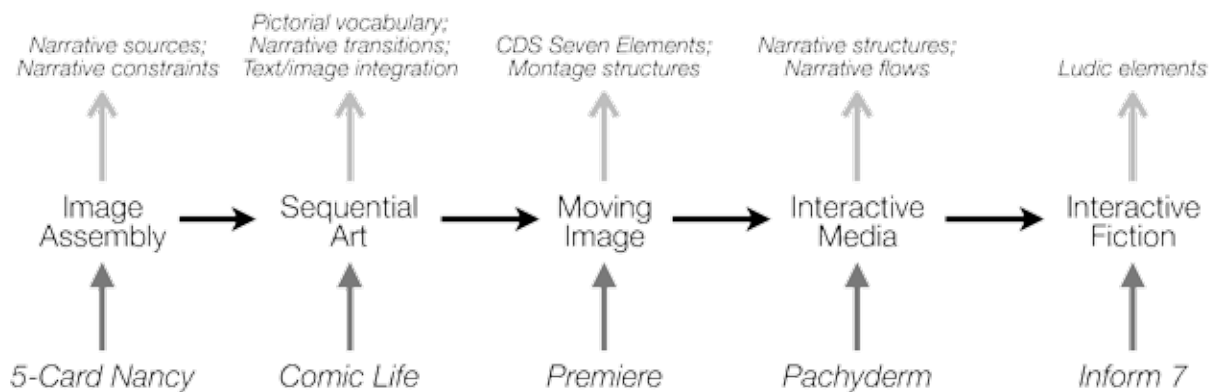


Figure 1: Digital Storytelling across media

The structures have been carefully selected with three goals in mind:

- They define an “optimal set” at each stage - i.e., exactly the right amount of theory is introduced at each stage for the task to be accomplished;
- They build upon each other, so that subsequent stages are informed by the work done at the earlier stages;
- They are flexible, so that a key subset of the information can be introduced usefully at stages earlier than indicated in the diagram.

Other constraints operate: stage one is designed to act as an introduction to any of the other stages, and stages 2-4 are designed to take no more than a day of instruction apiece (stage 5 is designed to take two days). Also, stages 2-4 are designed to be optionally offered as a standalone course of instruction, by merging in selectively elements from the preceding and succeeding stages. In the discussion that follows, I will focus on the first four stages, and I will touch briefly upon some aspects of the fifth stage.

Stage One: Image Assembly

The game of *Five Card Nancy*, created by Scott McCloud (McCloud, 1993) provides an excellent point of entry into digital storytelling. In its simplest version (Dave White, online at <http://www.7415comics.com/nancy/>), the rules are as follows:

- cut up a set of Nancy strips into their component panels, and shuffle them;
- choose five panels at random from the set;
- select one of these panels to be the first panel of a new comic;
- return the remaining panels to the deck, and repeat the process, until the new comic is complete.

At first sight, this might not seem to be the most fertile ground for storytelling — won't random panels yield a random story? However, the process of selection involved in the third step changes the dynamics dramatically: while the resulting strips have a certain surreal flavor to them, they also have a reasonably well-defined story behind them. In fact,

the process of asking participants to justify their panel choices allows them to more readily apprehend two key issues:

- the origins of storytelling in meaning-making activities: as they progress, they come to better understand how their panel choices correspond to both retrospective meaning-making activities (i.e., explaining what has come before), and prospective meaning-making activities (i.e., making choices based upon expectations of what story elements might come in the next draw).
- an intuitive grasp of the structural elements that make comics work: unlike movies, most people tend to have a rather limited experience of comics, in many cases limited to the standard three- or four-panel gag strips printed in their local newspaper. Having to explain their choices for panel selections helps them begin to develop an intuitive feel for some of the relationships of elements between and within panels that provide narrative continuity in comics.

Stage Two: Sequential Art

Having set the stage with *Five Card Nancy*, participants are ready to move on to the task of creating a digital comic. As already mentioned, intuition is not a reliable guide for most participants when undertaking this task: without any additional framework, the resulting comics tend to be disjointed and talky. This presents a challenge, however: time constraints do not permit covering all the source materials that would ordinarily form part of the education of a comics artist (e.g., McCloud, 1993; Eisner, 1985). After careful tests with pilot participant groups, I have identified three sets of concepts, derived from the work of Scott McCloud, that form a “just right” mix for digital storytelling workshop participants - they are:

- the conceptual triangle (picture plane/reality/language) that defines the pictorial vocabulary space of comics;
- the types (and corresponding uses) of panel-to-panel transitions in comics;
- the types (and corresponding uses) of word and picture combinations in comics.

With these concepts in hand, participants are ready to create a digital comic that tells a story of their choice. It is important to note that they are not directed to write a “script” for their comic: this tends to result in wordy comics with poor overall narrative flow. Instead, they are asked to write out the story as a rough draft, and then select key events from it to be illustrated by panels in the comic — the actual text to be used within the comic should only then be written, and only as strictly necessary. Since most participants lack drawing or painting experience, panel images are sourced either from materials brought by participants, or from Creative Commons-licensed images, such as are found on *Flickr*.

The final comic both serves as a digital storytelling object unto itself, as well as a point of departure for the next stage, providing a conceptual storyboard for a digital video project.

Stage Three: Moving Image

The approach designed by the Center for Digital Storytelling is still retained at its core here (i.e., the “seven elements”), with two important modifications:

- The voiceover for the story is not written from scratch, or derived from the previous rough draft, but rather based upon the existing digital comic. This has the effect of both “tightening” and focusing the narrative.
- While participants’ intuitive experience of film and TV is relied upon, it is supplemented by a discussion of approaches to cinematographic montage. The reason for this is to provide storytellers with a broader palette of options than they might otherwise use, resulting in overall richer and more expressive narrative flow.

As is the case for comics, time does not permit a discussion as in-depth as might be found in an introduction to filmmaking, but a workable compromise can be found by examining a set of four approaches to montage identified in Gilles Deleuze’s *Cinema 1: The Movement-Image* (Deleuze, 1986) - they are:

- Organic Montage (e.g., as seen in the films of Edwin S. Porter, D.W. Griffith);
- Dialectical Montage (e.g., Sergei Eisenstein, Dziga Vertov);
- Montage by Quantity of Movement (e.g., Abel Gance, René Clair);
- Montage by Quantity of Light (e.g., Robert Wiene, Fritz Lang);

Both classical and contemporary examples are examined for each of the approaches, and linked back to McCloud's analysis of panel-to-panel transitions. In turn, this sets the stage for participants to translate their comic into digital video form, using both their previously sourced images, as well as new materials of similar origin. Finally, participants are encouraged to review and enhance their comic in light of their work in video.

Stage Four: Interactive Media

Interactive media tools such as *Pachyderm* (see <http://pachyderm.nmc.org>) pose a particular challenge when viewed from the perspective of storytelling: in a setting where readers can choose to take any one of a number of branches at different points in the narrative, how can stories best be constructed? Answering this question requires special attention to two issues at a level beyond the intuitive:

- The structures that underlie classes of narratives, and how they can be used to analyze a story and break it up into "chunks";
- The ways in which the same "narrative chunks" can be assembled into multiple coherent narratives.

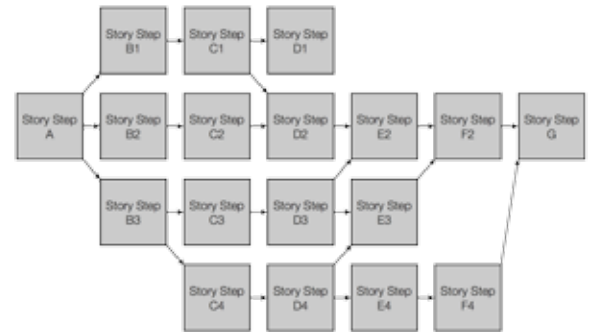
In dealing with the first of these two points, Joseph Campbell's analysis of the components of the Hero's Journey (Campbell, 1972) provides a solid point of departure. The three-part structure of the monomyth (i.e., Departure, Initiation, and Return, with each part in turn containing five or six substructural components) allows for a clear first introduction to the structural segmentation of a narrative. Alongside Campbell, participants are also introduced to Vladimir Propp's more fine-grained formal classification of narrative units (Berger, 1999). Once they have adapted these approaches to a chunking of their own narrative, the second point must be dealt with.

Videogames with a strong narrative component have had to deal with the issue of multiple paths through the story for years. While one solution is to simply have the story "run on rails", i.e., forbid any choices that would result in significant narrative deviations, gamers tend to resent this. Lee Sheldon has studied the issue, and identified a number of ways that narrative branching can be harnessed (Sheldon, 2004):

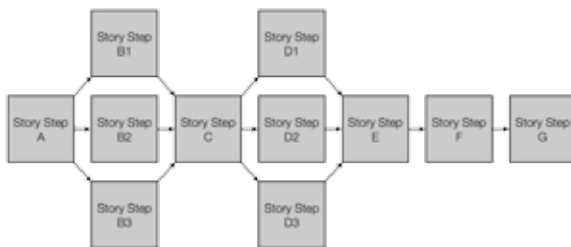
2a: Linear Storytelling



2b: Branching Stories



2c: Linear Storytelling



2d: Branching Stories

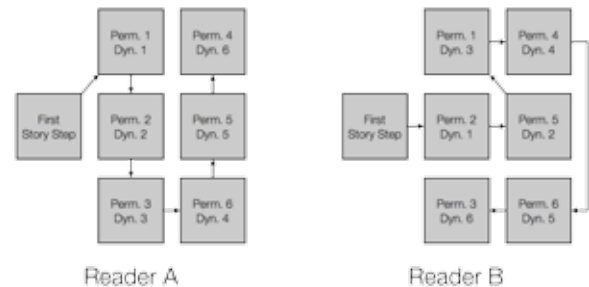


Figure 2: Some samples of narrative branching structures

Particularly interesting is his modular storytelling example (2d above), where the modules remain constant, but their significance changes according to the order in which they are visited. Thus, a module that played a role in the “Departure” segment in one traversal order, may instead play a role in the “Initiation” segment for a different traversal order.

Participants are asked to expand their original story so that it can accommodate branching points of exploration – it is rare that the original story as embodied in either comic or video format has the required flexibility – segment it according to a suitable adaptation of the Campbell/Propp models, and select one of Sheldon’s frameworks for harnessing branching storytelling. At the same time, *Pachyderm*’s built-in templates correspond to different branching modes, and need to be selected accordingly. The resulting narratives can be viewed as a capstone of the process, incorporating what has been learned in the two previous stages, but accommodating a structure that is best suited to reader exploration.

Stage Five: Interactive Fiction

This stage is somewhat different from its predecessors, inasmuch as it involves the generation of a completely new story, with game-like overtones. Additionally, it involves mastery of a toolkit (the *Inform 7* programming language), which — while a good deal simpler than traditional programming environments — is considerably more complex than the tools used in the other stages. Finally, it also involves a substantial subset of the theory of game design. For these reasons, I will not discuss it in greater detail here, since to do it justice would require a paper of its own. Nonetheless, it is worthwhile noting that it affords flexibility and interactivity that goes beyond simple branching: puzzles, the construction of new narrative strands based upon reader input, and feedback mechanisms are all added to the possibilities for storytelling previously considered (for an introduction to the dynamics and potential of interactive fiction, see Montfort, 2003.)

Conclusion

The preceding approach is by no means the only way to expand the horizons of digital storytelling. However, it is a particularly effective way to do so, and one that can be further extended readily. For instance, it is possible to revisit the digital comics approach once the interactive media exercise has been completed, in order to explore the potential involved in branching comics, usually described as “infinite canvas” comics (McCloud, 2000). Finally, the broad outlines of the approach retain validity, even if the specific toolkit and media choices change: the selection process for “just enough theory” described here can be applied to a broad range of digital storytelling scenarios.

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About the Author



Dr. Ruben Puentedura is the Founder and President of Hippasus, a consulting firm focusing on transformative applications of information technologies to education. He has implemented these approaches for over twenty years at a range of institutions, including Bennington College, Harvard University, and the Vermont and Maine State Departments of Education, as well as other schools, colleges and universities, hospitals and arts organizations. His research includes the design of models for selecting, using, and evaluating technology in education, as well as new directions in Educational Gaming and Digital Storytelling, focusing on applications in areas where they have not been traditionally employed. He can be reached at rubenrp@hippasus.com.