Abstract

We present a new basic metaphors and concepts for authoring environments by distinguishing between content and form. By distinguishing between planning the scope of action (content) and the act of storytelling (form) we provide multimedia authors with means to plan complex, but still consistent stories and to develop new and more sophisticated formats how to tell their stories. These new metaphors also offer new ways for participation to the audience by creating interactive formats of narration.

1. Introduction

We all got used to absorbing information through multimedia. Addressing all senses of the audience in order to communicate information is used broadly. The audience nowadays is educated in deciphering narrative and rhetorical concepts but also visual and auditive figures.

These concepts and figures are constantly refined and thus the perception skills of the audience as well. So reading multimedia content seems to be an ongoing educational process.

On the other side with creating multimedia content the case seems to be utterly different; we had to notice that their is a very assymetrical illiteracy between reading and writing multimedia.

While content on the internet shows a broad interest in sharing and publishing information, the display format for amateurs is often derived from archaic media types like photo albums or diarys often executed in a clumsy fashion.

Tools for creating more sophisticated multimedia content struggle between two objectives: providing the user with unlimited opportunities to express themselves but at the same time keeping the complexity of the user interface graspable.

2. Tools shape the content

Every environment influences the result of the work by endorsing specific solutions and every tool generates it’s own aesthetic artifacts. Not only experts can tell the difference between a PowerPoint presentation and a Keynote.

But more than the visual quality, the internal structure of an application and the chosen metaphor define a multimedia product. The choice of the global metaphor influences deeply the inherent structure of the outcoming product, because the metaphor guides the producer and implies a specific kind of result and the way it can be received by the consumers.

2.1. Global Metaphors

In order to support the understanding and the usage multimedia authoring environments guide the user by introducing a global metaphor. This metaphor ideally embeds all interface elements and functions into one logical context.

Two the the most popular tools (Macromedia Director and Macromedia Flash) are time based metaphors. Derived from the idea of a film set the author (director) is creating action on a stage by defining snapshots in time (frames).

While time based metaphors enable users to quickly animate graphical elements on the screen, they are inconsistent or at least hard to grasp when parallel paths of action are emerging or user input is defining the action.

In addition by providing a variety of functions that are disparate or only loosely connected to the global metaphor these authoring environments are utterly complex to use.
2.2. Distinction between Content and Form

For us, the distinction between „what“, the content and „how“ the form within multimedia production means to separate the process of planning actions (time and location = content) on the one hand and the art of telling stories (=form) on the other hand. We will call the first scope „arena of action“ and the second „storytelling“.

2.1. Content and Form in frame based authoring environments

With frame based authoring environments all characters and elements of the story are stored in a library. The author then decides which visual and auditive elements should be present at a certain point in time by positioning these elements at a specific location on the stage in a specific frame of the score (time). With this metaphor the planning of storytelling takes place in the authors mind. The interface does not distinguish between the actions happening within the story and the decision what and how the authors intend to reveal this to their audience at a certain point in time.

The main point of distinguishing between form and content in the above sense is that more than one stories can be told on the basis of the same material. A comparison from everyday life may highlight the point: Imagine 10 people attending a dinner and are asked afterwards about the evening: you will get at least 10 different stories although all 10 attended the same dinner and spend the evening probably in the same room together.

To make it even more clear: Imagine 10 people are invited to a rock festival. If they are asked afterwards you will get even more different stories, because there were probably parallel music sessions going on at the same time.

Or remember the movie „Babel“ which starts with a parallel path of different stories – four in all – that are all linked to another story and so indirectly are all connected. As the movie progresses, the audience slowly sees how the different scenarios are connected.

So the synchronicity of events is a major driver for triggering and creating compelling stories. This synchronicity is not represented or supported by traditional multimedia authoring environments.

Distinguishing between these two phases in multimedia authoring is supporting the creativity of the author: He or she is able to first plan and set the scope of action (exposition or protasis) before focussing on the concept of communicating the story to the audience.

Most applications which support the production of multimedia, have library-like collections of data which serve as pools of single media elements. But these pools usually store only single data like pictures, movies, texts etc.

What comes at least close to the idea of having the „scope of action“ on the one hand and the possibility of „storytelling“ separately, is to define different scenes in Macromedia Flash or different movies in Macromedia Director.

Different storytelling is possible only by jumping between the single scenes or movies in different ways. It is symptomatic that defining the path through the different scenes or movies can only be done by programming code, while most of the functionality in both authoring environments is accessible by direct manipulation.

With frame based authoring environments maintaining consistency within the overall story, e.g. if the viewing angle is changed, is in the responsibility of the author’s memory and not supported by the authoring tool.

2.2. XML and HTML

The introduction of XML (Extensible Markup Language) in 1998 as a W3C Recommendation is a wonderful illustration to our concept. While HTML was designed to display data and to focus on how data looks, was XML designed to describe data and to focus on what data is [w3schools].

While XML describes the data, a DTD (Document Type Description) or an XML Scheme, defines how the data will look like. In our terms: XML describes the content, DTD describes the form; see [Castro 2000]. As a result, one XML file can have several, completely different visual appearances and a different range of information. A timetable has to be visualized in a completely different manner if you want to study it on a 17“ PowerMac or on your iPhone.

Distinguishing between content and form is very useful and opens up a full range of new options in multimedia storytelling.

3. Telling stories differently - telling different stories

With the project „writing multimedia“ we explored other metaphors for creating multimedia content. The goal was to develop alternatives to frame based metaphors thus providing alternative tools to support the creating of other formats and artifacts in multimedia.

3.1. Inspiration: medieval panel paintings and fictional maps

In the late medieval, panel paintings or tableaus were very common to tell complex stories. The following Figure 1 is a triptych by Lucas Cranach The Elder. It quotes from the Old Testament (1 Kings 17), where Elijah
and prophets of Baal had a showdown to see who would send fire to light their alters: God lit the fire for Elijah, and the prophets of Baal were killed. But it depicts also the three electors of Saxony, as well as the artist himself. The biblical tale describes a period of at least three years.

Fictional Maps
The map in Figure 2 represents the mystic time and location „middle earth“ in the novel Lord of the Rings. By creating a detailed map of a fictional place the story is supported by „fictional facts“ and thus gains credibility. We wonder whether the author also used this map to create plausible relationships between time and location, e.g. travel routes for his novel.

Figure 1: Elijah and the Priests of Baal
Lucas Cranach the Elder, 1545, Staatliche Kunstsammlungen Dresden, © Gemäldegalerie Alte Meister

Figure 2: Map „middle earth“ in the novel „Lord of the Rings“ [Tolkien 1979]
4. Creating a narrative world

The consequence of the discussion about distinguishing between content and form is a new environment which allow authors to first create a narrative world and decide about their actors/elements and actions, before they need to decide how to show this world to their audience.

In this environment all threads of the story can be planned and animated in parallel paths. In a second step the authors use one or more cameras to film parts of the action taking place in their „virtual fairyland“. To distinguish between these two steps of creation support different ways of storytelling. For example telling complex stories is made easier by creating split screen animations to show the dramaturgy of their story evolving.

By distinguishing between the story and the way it will be presented to the audience help the authors to fine tune their means of storytelling thus also refine their multimedia authoring skills. This practice is in sync with the basic principle of personal computing „trial and error“: they are able to easily film their story in many different variations in order to decide which way might be the most compelling way for their content and intention.

During the project in summer 2007, three concepts following this basic idea of distinguishing between content and form were developed. The prototypical realization include interactive simulations as well as animations explaining the way of usage. These user scenarios differentiate clearly between creating the content and direct the form.

All three of them focus on different types of media and will be presented throughout the following subchapters.

4.1. Different stories out of one Text

This concept makes stories out of the oldest media type we use on computers; out of text. Because we take the distinction between content and form really serious, we propose two steps: first, generating or producing the text within this environment and second, animate it.

Defining the content can be done by importing existing texts or writing a new story. The characteristic feature of the medium, its linearity will be intensified by displaying the whole text in one line, irrespective of the length of the text.

To animate the text, an obvious metaphor was used. While moving a virtual video camera, the user can select the detail, can define the size of the text by using the virtual zoom, can control the speed or even imitate a handycam.

Figure 3 is a short version of a user scenario. The prototype will give even more insights.
4.2. The „Rashomon Effect“: creating multiangular stories

In the Japanese film directed by Akira Kurosawa [Goodwin 1993] from 1950, a woodcutter, a priest, a bandit, the samurai’s wife and samurai himself all memorize a crime completely different. This story and this technique of storytelling reveals the relativity of truth.

The following concept (developed by Ulrike Kindermann) enables a producer of a multimedia product to create the scope of action (content) independently of the media performance (form).

When planning the scope of action the author is able to paint the whole picture including all scenes and all persons involved with as many details as personal imaginable. By planning this the author is able to establish a credible setting or framework he or she can rely on.

The following two pictures in Figure 4 show how the scope of action is created by organizing different locations horizontally and different time spans vertically. The future is indicated by an increasing blue transparent layer towards the upper edge of the window, thus creating the impression of depth (now: near = at the bottom and the future: far away = at the top of the workspace).

Figure 4: Establishing the scope of action in time and location

Figure 5 explains how to use the library to add more locations and (more important) how the actors appear in the scope of action.

Figure 5: Actors appear

With defining the time span for the acts, the first phase, creating the content, is finished and the second phase, creating the form is ready for action.

The author can start to „film“ his or her story. Since the setting is made earlier the author can record as many takes as necessary until the result is to his or her complete satisfaction.

Within the environment storytelling should take place as a realtime recording: by moving the „focusing screen“ only this particular section of the whole arrangement of objects and actions is captured.

Beside the possibility to redo a single take as many times as possible, the authors can also produce different takes of the same scene to compose a more complex multiangular narration e.g. by combining these takes a split screen technique for the final montage.
4.3. The interactive comic book

The next concept (developed by Janina Südekum) focuses on a particular genre of stories, on comics. In showing this concept we will focus on the view of the spectator.

Figure 8 demonstrates how to build a comic strip out of a stack of single images by „filming“.

Figure 6: Storytelling in Action

The last Figure of this concepts (see Figure 7) shows two different movies telling different perspectives of one scope of action.

Figure 7: Different stories from different angles
Figure 9 shows a single line of images, it is a still linear story that is animated by sliding from right to left over the screen thus supporting conventional reading habits. During the storytelling, the author decides to open up parallel paths of actions. The story divides into two story lines, following each of the two characters separately, like in Figure 10.

![Figure 10: Choices for the consumer open up](image)

The following two pictures in Figure 11 demonstrate the views of the spectator after the decision which path he or she wants to follow.

![Figure 11: Different views depending on the choice of the consumer](image)

5. Conclusions

So pushing this principle even further would result in making the story interactive: by offering the audience the choice which thread of the story they want to follow the individual perception and the subjective view onto a particular event can be captured. By deliberately switching between these views the audience can broaden their view. This technique enables the author to increase the suspense of a story by leaving it to the audience to put the pieces of the puzzle together.

Particular tools for supporting collaboration between people on different locations can be a very useful addition. The concept of distinguishing between content and form predestination it for distributing different tasks in the process of defining the scope of action as well as in the process of storytelling.

One last crosslink: This basic concept follows the very old, Greek art of memory. Simonides of Ceos developed the method of placing or ordering things in a memory ‘palace’ which allows for better recall. These memory palaces, and the mnemotechnician’s approach remained popular until the middle ages. Also Thomas Aquinas recommended it (see [Yates 1966]). It comes to the basic line that first you create an information space, the content, and as a second step you think about how to tell the story. This analogy is a high demand for further research.
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7. References


[w3schools] http://www.w3schools.com/xml

