

# Chapter 3.11

## Storytelling–Based Edutainment Applications

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### ABSTRACT

Within this chapter, the authors—all members of the Digital Storytelling group at ZGDV Darmstadt e.V.—provide an overview of the potential of storytelling-based edutainment applications and approaches for narrative learning applications. This covers not only online applications, but also off-line edutainment components, as well as hybrid scenarios combining both types. The chapter is structured into five parts. At the beginning, a global scenario of edutainment applications for museums is introduced and key issues concerning the establishment of edutainment applications and the level of interactivity for online applications

are highlighted. These open and relevant issues are discussed within a technology-oriented, state-of-the-art analysis concentrating on the authoring process, storytelling aspects, dramaturgy and learning issues. Based on this brief STAR analysis, storytelling methods and concepts, as well as a technical platform for the establishment of storytelling-based edutainment applications, are described. The strengths and weaknesses of these approaches are discussed within the context of the edutainment projects, art-E-fact and DinoHunter Senckenberg. Finally, the major results are summarized in a short conclusion and further research and application-driven trends (context: museums) are pointed out.

## GLOBAL SCENARIO OF EDUTAINMENT APPLICATIONS FOR MUSEUMS

The multifaceted scenario of edutainment applications for museums includes key players and user groups, as well as major components and aspects, for both online applications within the museums and Web-based scenarios using the museum (Web site) as document archive or knowledge pool, enabling teachers to enhance lessons through multimedia content provided by the museum's archives and collections (see Figure 1).

Some general questions address various needs and aspects of the different user groups involved in these museum scenarios:

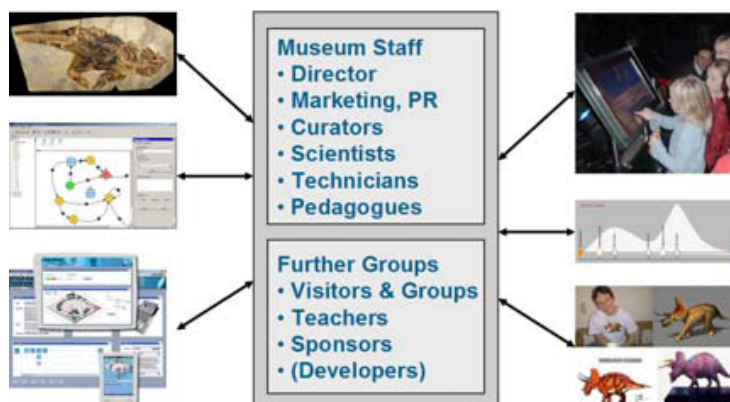
- How to enter content into the exhibition and make it available via interactive artefacts?
- How to visualize (scientific) background information?
- How to build valuable exhibitions with learning effects?
- Which learning methods are appropriate?
- How is learning interconnected with Gaming/Fun?
- How much technology is appropriate?
- What are the benefits of combining museums with the Web?

- How to measure success of artefacts & exhibitions?
- How to finance artefacts and exhibitions?
- Which business models are appropriate?

Whereas the two first questions concern the authoring process and its outcome (as input) for run-time systems, such as interactive artefacts or terminal applications, the subsequent questions are more general in nature, encompassing learning and methodological-didactic aspects, as well as marketing- and business-oriented issues. Within this chapter, we concentrate on the more technical aspects behind these questions and analyse the benefits of storytelling-based approaches in order to answer these questions and to make edutainment applications and museum exhibitions more valuable in a broader sense.

Referring to online edutainment applications and "Web sites with learning components" from the technical point of view, the most interesting question concerns the level of interactivity. Göbel & Sauer (2003) provided a short overview of those levels in their workshop, *Combine the Exhibition and Your Web Visitors. Integrated Concepts of Interactive Digital Media for Museums*, presented at Museums and the Web 2003 in Charlotte, NC:

Figure 1. Multifaceted scenario of edutainment applications for museums



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