Chapter 7
Museums on the Web: Interaction with Visitors

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ABSTRACT
This chapter surveys current best practices for museum-visitor interaction on the Web and presents impressive, publicly available examples. These examples illustrate particular interaction ideas and highlight promising research directions. The chapter provides a qualitative analysis of museum Web appearances with specific focus on interaction between museums and their visitors. The material in this chapter is grouped around the interaction paradigms of Web 1.0, Web 2.0, Web 3D, and mobile Web. The main focus of the analysis is on art museums. However, when more advanced solutions are visible at other museum types, they are mentioned as well.

INTRODUCTION
The Internet and especially the World Wide Web on top of it is playing an incredible role in enabling democratic access to information and interactive communication for its participants. This development is even more remarkable when remembering the history of the Internet that was conceptualised during the Cold War era in order to ensure the possibility of communication after a nuclear strike (Rosenzweig, 1998). The success of the Internet is amongst other issues also due to its decentralised structure and open standards and protocols. For a review of the history of the Internet in terms of the network part, we refer to (Leiner, Cerf, Clark, Kahn, Kleinrock, Lynch, Postel, Roberts & Wolff, 2009).

Once available for the general public, the Web quickly became a prime information source. In general, museums realised the potential of infor-
mation dissemination on the Web quite early. Just to give some examples, the Wayback Machine of the Internet Archive\(^1\) lists the first Web site of various art museums as shown in Table 1.

A usability evaluation of early museum Web sites is described in (Hertzum, 1999). Based on a questionnaire survey among 30 museums, the author concludes that those early Web sites were mostly the work of individual heroes who, by means of doing, learned how to use the then new Web technology. However, these early Web sites lack an understanding of the expected user groups. Moreover, these Web sites simply transfer the interaction patterns with traditional media to the Web, thus rarely taking advantage of the inherent non-linearity of the new medium.

Also quite early, the potential for Web-based art education was discussed in (Milekic, Moreno \& Kazee, 1998). In this paper the authors argue that digital media on the Web will be beneficial for art education. Their main points are as follows. Firstly, the enormous storage capacity that enables museums to show artefacts, which are otherwise in the archives of the museum. Secondly, the collections are easy to access and search for the public. When it comes to search, the issue of classification gains importance, as the searchers are no longer necessarily savvy in the jargon of curators. In a nutshell, the authors argue that the digital medium of the Web allows for new interaction paradigms. So, simply copying the interaction paradigm of old, paper-based media is insufficient.

In the years since its launch, the Web changed dramatically in terms of usage patterns. In the beginning, the Web was primarily a medium with a limited number of information providers and a huge number of information consumers. For the providers, Web sites were mainly seen as digital analogues to brochures, where an organization may describe itself and deliver this picture to their customers. In particular, basic information about the museum was given. This era can be referred to as the Web 1.0 time. Kevin Sumption describes this first generation of museum Web sites as a derivate of the

\[...\] just in case' reasoning. ‘Just in case’ visitors surfing the net might wish to visit your museum, they could find sufficient information to know where to find you, what admission costs, and what programs are showing. (Sumption, 2006)

The next big step of the Web involved large-scale user participation. Platforms were developed where the role of users transcends from mere recipients of information to active producers of information. These platforms have in common that they provide easy-to-use tools that enable their users to share thoughts, photos, videos, etc. Without any intention of completeness we just refer to places like Facebook\(^2\), Twitter\(^3\), Flickr\(^4\) or YouTube\(^5\). All of these places are referred to with the umbrella term of Web 2.0, the ReadWriteWeb (Murugesan, 2007). The governing principle is more or less unrestricted user participation to

<table>
<thead>
<tr>
<th>Museum</th>
<th>City</th>
<th>URL</th>
<th>Date of first Web site</th>
</tr>
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<tbody>
<tr>
<td>Kunsthistorisches Museum</td>
<td>Wien</td>
<td><a href="http://www.khm.at">www.khm.at</a></td>
<td>29 Apr. 1999</td>
</tr>
</tbody>
</table>

Table 1. Dates of first Web sites of selected art museums according to the Wayback Machine of the Internet Archive