

# Automated Techniques for Maintaining, Developing and Presenting a Large Cultural Heritage Web Presence

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## Abstract

Over the past 5 years many cultural heritage organisations have established a World Wide Web (WWW) Site, the Hunterian Museum and Art Gallery (HMAG) being one of these organisations. Often these sites have grown from a small web presence (under 100 HTML PAGES) into a medium (100 to 1,000 HTML PAGES) and in some cases into a large (1,000+ HTML PAGES) WWW presence. The exponential growth of web sites and the constant diversification of WWW technologies have resulted in a number of critical problems.

Using lessons learned previously in Computing Science and Software Engineering, The Department of Computing Science in conjunction with The Hunterian Museum and Art Gallery have been working on a number of these problems. The aim is to produce software tools and methodologies that can solve and reduce the significance of these problems. In this paper we will report on the prototype tools which we have designed and developed.

Some of the problems which will be addressed in this paper can be broadly categorised as follows:

**Design and Presentation issues.** Design problems generally develop from the specifications (often seen as *restrictions* by designers). For example, limits on the file size allowed to ensure an acceptable download time.

**Navigation and Information Retrieval issues.** Presenting information effectively in a digital format is non trivial. Similar problems have been studied in Computing Science for a number of decades, however these problems are normally only discussed within Computing Science, using terminology which is often technical. Thus it is difficult to apply many of these solutions within a multi-disciplinary team.

**Evaluation.** Evaluating the usability of a web site is crucial. Experiments have shown that while many multimedia models provide great assistance with development, there is no substitute for testing a site with a sample of its intended audience.

**Management issues.** There are two aspects to the management issue: the problem of managing the development of a large website and the challenge of managing a multidisciplinary development team. It should be noted that while good graphic design can be strengthened in addition to enhancing navigation and information retrieval models, there is often conflict. To solve and overcome these differences it is essential to have managers who understand the importance of both **function** and **form**. Inevitably compromise is necessary to resolve these conflicts. Managing the development of a large website has many

of the problems associated with a large software development project - these include: resource allocation, controlling change, safe access for teams of developers, and maintaining consistency.

**Maintenance.** The maintenance of large web sites has a particular challenge caused by the diversity of technologies used and the number of developers who contribute to the site.

Many of these problems are similar to those which have previously been tackled in other disciplines including: Software Engineering; Management; Graphic Design, in addition to the information problems presented by each domain of expertise being represented. While many solutions can be adapted from the aforementioned disciplines, it is often the case that web developers who are new to these problems are tackling these issues without the benefit of existing experience, and are in essence trying to reinvent the wheel.

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## References

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