

The potential of internet-based techniques for heritage interpretation

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Abstract

This paper deals with the use of internet-based techniques in the context of applied heritage interpretation, using an old industrial area in central Germany as a case study example. The paper sets out basic principles of heritage interpretation, which are then contrasted to the special qualities of internet-based techniques. Potential advantages and disadvantages of using internet-based techniques in heritage interpretation are discussed. The paper then focuses on the development of heritage interpretation for the town and region of Schöningen, where the defining industry of open-cast brown coal mining is gradually being replaced. Tourism is likely to focus on the special cultural heritage of this region, which includes an important prehistoric site and 400.000 year old wooden spear found in the mining area. Different internet technologies are discussed in the context of realising ideas of heritage interpretation, followed by suggestions for practical implementation. Despite the undoubted uses of internet-based techniques and resulting benefits for heritage interpretation however, we conclude that internet-based approaches can at best supplement approaches taking place in the landscape itself.

1. Introduction

This paper aims to discuss some opportunities for using new information technologies in the context of heritage interpretation and modern tourism planning. It specifically focuses on ways of linking the advantages of technological innovation to the methodology of interpretive planning as part of developing a local tourism strategy.

Heritage interpretation is closely linked to the perception of landscape and the conscious use of landscape as a setting for tourism. Traditionally, tourism planning has often been synonymous with marketing and the generation of tourist images which are then communicated to tourists in books, postcards or brochures. With the advent of sustainable tourism, tourism planning has moved beyond this. Today the need for participation, developing common visions and specific objectives is clearly understood, comprising elements of strategic planning, regional development, economic regeneration and social inclusion. At the same time, tourism planning clearly understands the role of new media and in particular the internet in communicating images of place.

Heritage interpretation has taken almost a parallel route. Today, heritage interpretation represents a comprehensive methodology where optimised use of the natural and cultural resources, increased economic valorisation and participative development are just as important as the primary educational objectives of heritage interpretation.

Internet-based techniques, through their interactivity and multimediality, might offer new opportunities for supporting regional approaches to tourism and interpretive development. The following uses the example of an old industrial region in central Germany to highlight opportunities and problems arising from the application of new technologies. The paper particularly seeks to highlight the role of new media in the context of heritage interpretation and the development of a regional interpretive strategy. Section 2 gives a short overview of the principles of heritage interpretation, followed by a brief introduction to some internet-based techniques. The remainder of the paper discusses the town of Schöningen as a case study example.

2. Heritage Interpretation – principles and application in the context of sustainable tourism development

Heritage or environmental interpretation is a complex instrument of communication, tourism planning and management with close links to a range of other fields. Central to the concept is the idea of increasing appreciation of the heritage resource whilst implementing sustainable tourism development.

Heritage interpretation primarily assists in the valorisation of local resources by creating attractive high quality tourism products. Popular examples include heritage trails, visitor centres, exhibitions or brochures, with guided walks, lectures and heritage events representing other well-known examples. In order to obtain maximum benefits, different elements need to work together in a flexible and regionally relevant way.

In its original sense, Heritage interpretation can be described as a communication approach which identifies and presents countryside character to non-captive audiences. [Til77] defines it as „educational activity which

aims to reveal meanings and relationships through the use of original objects, by firsthand experience and by illustrative media.“ A wide range of media are employed to facilitate such firsthand experience, using common principles of communication to stimulate curiosity, reveal meaning and generate emotion. An important point is that heritage interpretation primarily addresses non-captive audiences, mostly seeking pleasure enjoyment in a leisure or holiday context. In order to reach this target group, special principles of communication need to be used. These are designed to capture attention, rouse curiosity and maintain interest, using different ways of packaging in different settings and for different target groups (“Provoke, relate, reveal”, [Vev94]. Interpretive provisions therefore need to be carefully planned in terms of visual appearance, thematic structure and language. Here, the development of themes, messages and storylines and the choice of appropriate media to suit specific settings and audiences are central to good interpretive planning. Table 1 summarises some of the most common interpretive principles and a selection of sources from literature.

Interpretive principle	Source (examples)
To provoke	Veverka 1994
To relate	Veverka 1994
To reveal meanings and relationships	Veverka 1994, Kreisel 1997
To discover and actively engage	Ham 1990, Lehnese und Glawion 2000
To stimulate curiosity	Tilden 1977
To encourage active participation	Knudson et al. 1995
To use all senses	Tilden 1977
To stimulate care	Tilden 1977, Knudson et al. 1995, Kreisel 1997, Lehnese und Glawion 2000
Involvement with objects, artefacts, landscapes and sites	Veverka 1994
Following a thematic approach	Ham 1990
repeating key themes/issues and summarizing messages	Ham 1990, Veverka 1994
Tailor presentation styles to the audience	Tilden 1977

Table 1: A selection of common interpretive principles drawn from literature

Apart from facilitating greater enjoyment, the main objective of heritage interpretation is to renew our sense of care. [Til77] puts this as „Through interpretation, understanding, through understanding, appreciation, through appreciation, protection“. In the UK, Heritage interpretation has therefore long combined the presentation of countryside resources with targeted visitor management. Its objectives can be summarized as follows:

a) Didactic objectives: Enhancing visitor experiences and understanding of the countryside or heritage resource through appropriate messages and techniques of com-

munication. Issues here include thematic planning, choice of appropriate media and enhancing the effectiveness of communication.

b) Behavioural objectives: Increased appreciation of the resource as a prerequisite for careful use. Issues here include the effectiveness of interpretation in encouraging behavioural change.

c) Strategic objectives: Environmental interpretation as a tool in sustainable regional development. Issues here include the regeneration of disadvantaged areas, manage-

ment of visitor distribution, improving tourist infrastructure or using interpretive planning as a means of fostering local participation and a sense of identity.

3. An overview of new internet-based technologies

The internet represents a general platform for using numerous media such as image, film and sound. Beyond its role in transmitting simple textual information, it has taken on significant multimedial characteristics, with the following setting it apart from other technologies:

- Individuality and specificity of information provision
- continuous updating
- ability to carry sound and (moving) image
- possibility for interaction and communication.

Hypertext structure enables every document to be reached from another. The result is an information system which is not exclusively linear, but structured by text blocks that are continually and actively re-shaped [San97]. This means that users can search the internet individually guided solely by personal interest. At the same time, breadth and depth of information are such that special 'tourist sites' are often required, facilitating navigation with the aid of site maps, pictogrammes, bookmarks etc. Active participation and reaction on the part of the user plays an important role in order to further specify the selection of information.

In the context of tourism, the internet has become increasingly important for transmitting a wide range of information. Many destinations have begun to rely on the internet not only as a marketing tool and booking aid, but also as a means for offering tantalising glimpses of landscape, facilities, specialities and events in real-life. Spatial information is becoming increasingly important in terms of online maps, which assist orientation, comparison to other destinations and travel planning. Destinations also use the internet to enter into dialogue with visitors, making available fora for instance for giving feedback and holiday tips. Technologically, this is facilitated by the following:

a) monodirectional information flow:

- HTML page (hypertextuality, frames)
- Link to databases (GIS)
- Images
- Webcam (self-guided and fixed)
- Animation
- Slide shows
- Image Maps
- Flash (as an interactive, dynamic application)
- Films (streaming, download)
- Audio (streaming, download)
- Panorama views (interactive 360° vistas)
- 3D worlds

b) bidirectional information flow

- Email
- Fora
- Guest books
- Chat

Importantly, these various methods permit the individual layering of information according to desired depth and need (e.g. superficial information and detailed information, information for children and adults). The advent of VRML (virtual reality modelling language) enabled the free navigation of 3D worlds, rendering possible the exploration of virtual landscapes that mirror actual tourist destinations.

4. Benefits of internet-based techniques in the context of heritage interpretation

In what contexts, then, can internet-based technology offer real benefits to heritage interpretation? We suggest the following principal areas. Note that these are not exclusive to internet-based techniques, but might equally apply to other multimedia-based approaches.

a) Presenting information

The internet is an ideal tool for structuring and presenting information in the classic 'interpretive' way. Just like a traditional interpretive panel, internet-based information can lead viewers through different layers, each presenting more detailed information than the previous one. The advantage clearly lies in the amount of information that can be presented, allowing for instance multiple languages and a sheer unlimited depth of information. It is also possible to customise information for specific target groups, for instance bringing together information for children and adults on the same site. Another advantage is the fact that the internet is less prescriptive than some of the more traditional media. Viewers can decide for themselves which information routes to follow, effectively compiling their own story according to current interests and needs. Themes and topics can therefore be approached from many different angles, which might stimulate curiosity and provoke interest more readily than some of the more traditional media.

The multimediality of the internet allows the integration of sound and video, which provide new dimensions in terms of visualisation and exploration, particularly of sites that cannot be explored at first hand. In contrast to CD-based multimedia approaches, internet-based technology is easily updated, altered or expanded, which means that interpretation can be kept topical, geared to seasonal events or provocative.

b) Access to information

Through internet-based technologies, heritage interpretation can become independent of time and place. Visitors can choose where and when to access information, either prior or after their actual visit. Interested visitors or local residents can use internet-based interpretation for preparing a site visit or holiday, while also being able to re-live and deepen holiday experiences after the event.

c) Visitor management

Using techniques such as webcams, the internet can make even remote sites accessible to visitors (for instance sensitive conservation areas). This could reduce pressure on sensitive sites or provide access to sites that would normally be out of bounds for certain groups, for instance people with disabilities. In terms of tourism and marketing, virtual experiences might stimulate curiosity and lead on to a real visit at a later stage. The advantage here lies in facilitating the planning of a holiday visit: A virtual map of a region could provide direct links to accommodation, view points, local products, partners and a virtual interpretive trail.

d) Co-ordinating internet presentations

Moving away from presentation, the dynamism of the internet can also be used to support planning processes and facilitate a more co-ordinated approach to communicating local identity. A regional thematic approach (see Figure 3) can form the basis for a new style of internet presentations, where contents are better structured and the usual disparate group of web pages is replaced by a unified approach that communicates a strong sense of identity. The internet also makes it easier to link up with local sponsors, allowing the presentation of their messages without worrying about panel space or a cluster of logos on a brochure.

e) Supporting a community approach

An interpretive internet platform is also a useful means for drawing in local interest and support. Links can be generated to local projects and other interpretive events, which could for instance be shown live through webcams. Communication platforms can also be established where local people can voice their concerns. Web-based newsletters and interpretive publications, finally, can be powerful tools to convey a sense of identity, making them easily accessible to local interest groups, schools or the world at large. Table 2 highlights the potential applications of web-based techniques by linking these to selected interpretive principles.

Interpretive principle	Available web techniques
To provoke and stimulate curiosity	Image / animation / film / webcam
To relate, reveal meanings and relationships	3D-worlds (VRML); panorama views, databases, image maps/link to GIS
To discover and actively engage	creating comparative images/ representations of current worlds to contrast to historic ones
To encourage active participation	guest book, individual navigation, searching for information, quiz and puzzles, games
To use different senses	3D-worlds, visuals, music
Involvement with objects, artefacts, landscapes and sites	3D-views, links to GIS, live webcams, longer-term observation, involvement through newsletters, campaigns
Following a thematic approach	Hypertextuality (linear)
Presenting key themes and messages	Variation in representation/ use of different media (image, film, sound)
Tailor presentation styles to audience	Hypertextuality (linear)

Table 2: Interpretive principles and suitable web techniques

5. Dangers of internet-based techniques in the context of heritage interpretation

Despite these advantages, there are a number of caveats. Firstly, the use of internet-based technology should not lead to neglect of the principles of thematic interpretation. Since it is easy to be carried away by the many opportunities offered by this technology, it is doubly

important to organise the information presented into a clear thematic structure based on topics and messages. Without this, internet-based interpretation is little more than an online encyclopedia and in danger of simply becoming information rather than interpretation. Adhering to the recognized principles of interpretive planning also reduces the danger of information overload, which already

represents a problem in traditional interpretation but is a specific concern with the internet.

Secondly, there is an issue with entirely disassociating interpretation from the site or the object in question. After all, one of the basic principles of heritage interpretation formulated by [Til77] is “firsthand experience”. Can internet-based heritage interpretation, viewed from the living room at home, still be considered interpretation? Or is it perhaps that a more contemporary definition of heritage interpretation is called for? In our view, both are valid points. Internet-based heritage interpretation should certainly be used to generate a genuine desire to directly experience the elements visited in virtual space, turning virtual experiences into tangible reality [Str02]. Also, internet-based interpretation should not lose sight of the original purpose and methodology of heritage interpretation, for instance, the desire to generate involvement, inspiration and awe. On the other hand however, it would be equally unfortunate to miss the many opportunities internet-based technology clearly does bring with it. As always, it is a case of horses for courses: Identifying the purpose and objectives of interpretation first and only then choosing the media must remain the key guiding principle. The following case study example attempts to highlight some of these issues in some more detail.

6. A case study example: The region of Schöningen

The small town of Schöningen (14.200 inhabitants) is situated in northeastern Germany between the large cities of Braunschweig and Magdeburg. Founded in medieval times, the settlement soon lost its significance as a trading post and came to rely on local resources instead. Salt and

brown coal afforded the area a certain wealth and by the late 19th century had developed into the region’s economic backbone. Today, neither salt or coal extraction have a future. While salt production ended in the 1970s, brown coal extraction is gradually been phased out and set to end within a few years hence.

This is a particular blow since the town no longer benefits from its location on the border, which until 1989 had carried with it certain privileges and programmes of funding. Seeking economic alternatives, regional planning increasingly focuses on tourism as a potential new lead economy. The area of Schöningen is not spectacular, but does offer many small-scale features that set it apart as an area of geological, natural and cultural interest. A particular highlight is a palaeolithic spear found during brown coal extraction and dating back 400.000 years.

Apart from the many individual highlights bearing witness to many historic periods – not least the former border which is just a few kilometers away – it is primarily the influence of open-cast brown coal extraction on the landscape that defines the region. Due to the scale of operations, effects on the landscape are enormous, constituting an attraction in its own right and also because of its significance as an industrial monument. With extraction coming to an end, plans have been put forward to turn the former mining sites into a series of recreational lakes, which would however take about 70 years to fill.

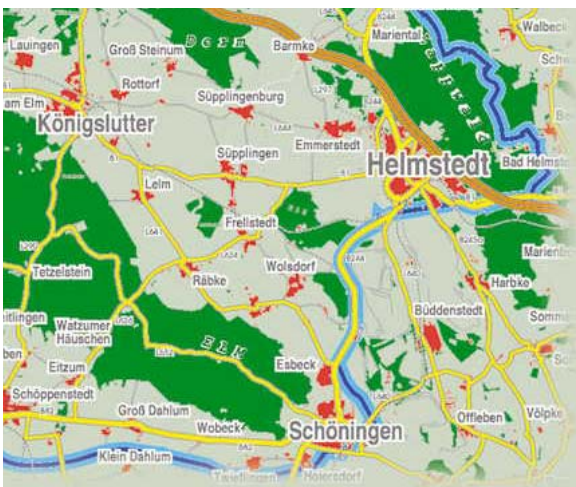


Figure 1: Map of the Region



Figure 2: Prehistoric spear



Figure 3: Open-cast mining

7. Regional approaches to heritage interpretation

In the Schöningen project, a group of undergraduate students were drafted in to assist in generating ideas for tourism development. Led by the authors, they met with representatives from the local community during several field visits during the winter semester of 2001. After a basic stocktake of the existing tourist infrastructure, work mainly centered around a basic assessment of the region's interpretive potential. Two focal points were chosen: One, the development of appropriate interpretive themes, and two, suggesting techniques for presenting these to the public.

Analysis of the dominant regional features quickly revealed that the landscape itself was to constitute the main interpretive topic. Provided with certain geological prerequisites, the area has been shaped by man from a very early age, with the prehistoric spears providing an exquisite highlight. The landscape shows numerous traces of subsequent periods, but it is recent history which is most dominant. Here, the most prominent features are brown coal extraction, wind energy and the former border location to East Germany. As mentioned above, brown coal extraction is highly visible and impressive simply on account of its scale. Looking closer however, the extraction sites also provides an interesting link to the past. Guided by the layers of coal visible in the faces of the extraction site, interpretation can be conceived as a journey through time,

to be embarked upon at the extraction site itself which would effectively act as a setting for an open cast museum. The journey would begin with the present day and take visitors all the way back to the formation of brown coal, similar to an exhibition in a visitor centre. Themes can then be picked up and reinforced in other parts of the landscape. The most intriguing part of the concept however is that the visible elements of this journey into the past will gradually be lost. As the extraction sites gives way to recreational lakes, the window into time will gradually close. Apart from offering renewed interest, this would also provide visitors with a unique opportunity to actively experience Schöningen's most recent chapter of landscape history: In 70 years time, a whole new landscape will exist, a recreational paradise which will require highly skillful interpretation to reveal its buried past.

Numerous suggestions were made for techniques of implementing the idea of a journey through time, including the use of large-scale land art and the installation of a series of steps leading to the bottom of the extraction site. With the latter proving unrealistic for reasons of safety, remote techniques once again proved of interest. The internet could become an observation platform, where the unfolding history of the former extraction site could be watched and different windows provide links to other themes visible in the region.

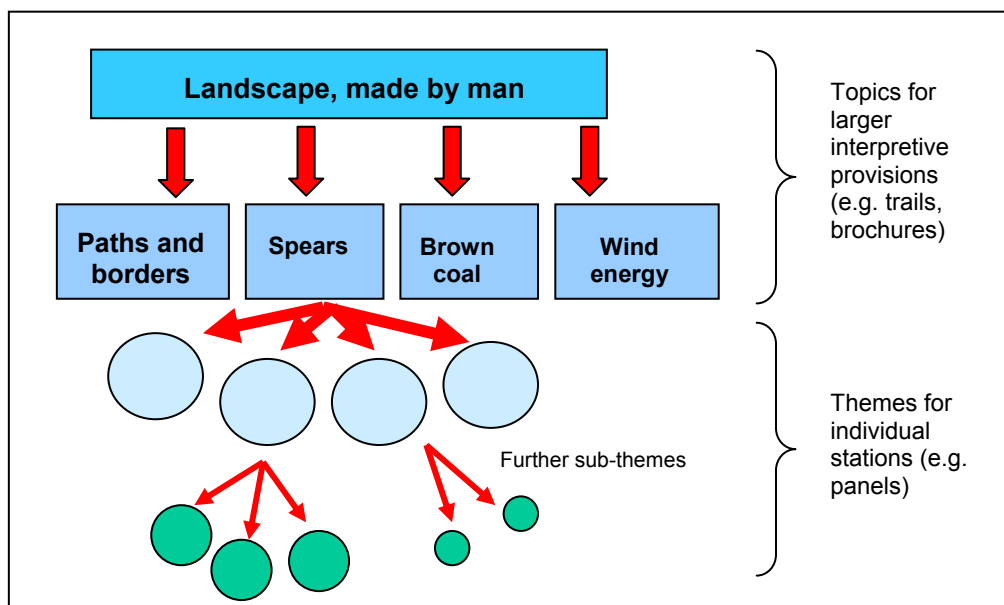


Figure 4: Thematic plan for Schöningen

Figure 4 represents an example of a thematic structure for the Schöningen area, featuring a lead topic and a series of sub-themes. Table 3 highlights a range of web-based

techniques that could be used to create a website dedicated to provide complete internet-based interpretation of the Schöningen region.

Theme	Suggested web techniques
Paths and borders	<ul style="list-style-type: none"> • Use of images and maps, which can be visualised as a slide show • Creation of a virtual trail, with pop-up menus representing 'virtual panels' • Addition of in-depth links and filter links for interested visitors
Spears	<ul style="list-style-type: none"> • Use of animation and flash to stage a virtual spear-throwing competition • Links to a planned museum exhibiting the spears and highlighting the discovery and significance of the Schöningen spears (including the re-creation of the historic landscape of the time and living history demonstrations)
Coal	<ul style="list-style-type: none"> • Use of 3D-worlds, images and animations to visualise the significance of individual layers of coal. Hypertext structure allows explanation of the sequence of layers within 'hotspots' of 3D virtual extraction site faces. • Live updates as the real site gradually disappears • Virtual model of the extraction site once it has disappeared

Table 3: Interpretive principles and suitable web techniques

A complete internet package constructed on this basis could provide visitors with an appealing introduction to the region, with the added advantage that it can easily be linked to specific local information and a map. A thematic, interpretive approach to the regional internet presentation would add much needed depth to the presentation of the region in the internet and also offer a platform for co-ordination of different web pages, which currently seem confusing and do not appear linked by an overall theme.

8. Conclusion

The technological potential of the internet appears to add a wide range of new options to the toolbox available to interpretive planners and designers. Meeting key requirements of interpretive communication, internet-based techniques can add depth to information, provide animation and encourage personal interaction. In terms of tourism planning, internet-based interpretation can provide a structural aid to creating new style web presentations that go beyond the mere provision of information to provide a real sense of place. Internet-based presentations can then be used to encourage real visits or to re-visit places and information after a visit has already taken place [Str02].

Internet-based heritage interpretation however cannot stand alone. Irrespective of technological finesse, internet-based techniques and remote interpretation are unlikely to replace the direct experience of the 'thing itself' [Til77]. Personal experiences, which after all comprise the central element of interpretation, cannot be condensed into bytes conveniently delivered to the screen at home. Webcams transmitting impressions from a cliff-top walk may be able to raise curiosity and even excitement, but they cannot replace the sounds, the smells or the feel of actually

walking there oneself. We would therefore argue that internet-based techniques fall short of one key aspect of heritage interpretation, which is the generation of emotions. Interpretation is not simply another form of 'learning by doing', a bag of tricks for interactive communication and cognitive understanding. Much more than that, it is about personal involvement, a sense of wonder and deep-seated care. For these, the 'thing' does need to speak to each of us for itself.

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Sources of images:

Figure 1: Map of the region: View at <http://www.elm-lappwald.de/start.php>

Figure 2: Image of prehistoric spear © Niedersächsisches Landesamt für Denkmalpflege in Hannover. View at http://www.braunschweig2010.de/bs2010/aktuelles/sp_aut_o_14419.html

Figure 3: Open cast mining: F. Dickmann