
INFORMATION KIOSK DESIGN GUIDELINES FOR THE PRESENTATION OF CULTURAL AUDIOVISUAL CONTENT

Samaroudi Myrsini,¹ Economou Daphne²
Department of Cultural Technology and Communication
University of the Aegean
Address: Dept. of Cultural Technology and Communication, University of the Aegean,
Harilaou Trikoupi & Faonos St., GR - 81100
City: Mytilene
Country: Greece
E-Mail: ¹m.samaroudi@ct.aegean.gr | ²d.economou@ct.aegean.gr
URL: ¹<http://ct-green.ct.aegean.gr/~ctma03009> | ²<http://www.aegean.gr/culturaltec/economou>

Abstract

The Information kiosks (IKs) are information systems with particular design requirements that address wide audience needs. This short paper aims to indicate a set of design guidelines (DGs) for the production of audiovisual cultural applications for IKs. For the presentation of the application of this particular set of DGs the Alistrati Cave in Serres, Greece has been used as a case study.

Keywords: information kiosk, design guidelines, interactive applications, multimedia content, cultural and natural heritage.

INTRODUCTION

Information Kiosks (IKs) are widely used in cultural organisations and museums and they are usually placed in central points of exhibitions. They appeal to a wide audience and their scope is to provide different types of information. They address the visitors' requirements of receiving interpretative content while on the move within an exhibition area, providing a dynamic, pleasant and interesting visiting experience.

A significant element for the comprehension of content presented in an IK is the multimedia application design specifications. For the presentation of the implementation of a particular set of design guidelines (DGs) for the development of a multimedia application for IKs, the Alistrati Cave in Serres, Greece has been used as a case study. The application developed refers to the visiting experience in a natural heritage 'exhibition' site. Nevertheless, it is directly related to the museum visiting experience and all relevant interpretative procedures, as in both cases cultural and natural content is being realised via symbolic conceptual processes (Τερκενλή 1996; Elgin 1997).

CONCEPTUAL AND PHYSICAL DESIGN PROCESSES

Two basic processes of the multimedia application development is the conceptual and physical design. During conceptual design user requirements are structured in a conceptual model, which describes the system functions and behaviour. A tool which is used to communicate to the designers the way the system conceptual model should be implemented is via a set of DGs. Some of the most important DGs for IKs' multimedia applications' design are as follows (Cranston *et al.* 1996; Maguire 1999):

- the IK should be clearly signed and placed in busy pathways, their height must be appropriate for standing people, as well as people on wheelchair
- IKs should provide a sense of privacy, thus audio volume should be controlled
- the system should encourage the users to interact with it, this could be achieved with the demonstration of the application function
- simple directions for the use of the system must be provided
- the user should be able to return to the beginning of the application at any time
- if the system remains unused for a period of time, it should automatically restart
- the system should not reveal any software information and it should not rely on users having special knowledge and skills
- in the case that users have to select a language, this action should be the one to initiate the interaction with the system
- help should be provided at any point
- navigation should be easy, simple and consistent
- clear metaphors should be used
- a set of functions should be clearly signed (arithmetically, alphabetically etc.)
- menu items should not be more than twelve
- audio and visual feedback should always support the user interaction

Physical design refers to user interface, layout structure and multimedia resource specification. This point discusses some of the most important audio-visual content DGs (Borchers *et al.* 1995; Maguire 1999; Chaparo *et al.* 2001):

- text
For text to be legible simple typeface should be used. The smallest font size to be used should not be less than 16pt and contrast between background and text should be high. Also, scrolling should be avoided.
- colour
The use of more than four colours is distracting and colour in general should be avoided in text. Red and green should be avoided as it is not perceptible by colour-blind people. The use of colour could be to group elements of similar functions. Light background colours help hiding fingerprints in touch screens especially when these are used in external environments. The use of blurred textures as a background helps hiding reflections, which might be distracting.
- icons and graphics
The icon language which is used should map the real world and icons should be self explained, or labelled. Buttons should have a three dimensional appearance and especially for touch screens their size should be big to fit the users' fingers (recommended sizes are 1x2 cm and 1.5x2.5 for elder users).
- photos
Coloured photos are recommended for people and landscapes. Grayscale photos are appropriate for the representation of concepts and ideas and not to distract the user focus from text; scrollbars are not recommended.
- audio and digital voice

Audio helps the better comprehension of visual content; it also helps the visual impaired. Volume control helps people with hearing problems, while the use of recorded digital voice is better than the use of synthetic voice as it is more natural.

- music can be used to add dramatization, enrich content and enhance interaction
- video enriches content and it is good for the user to be able to control its reproduction; in case virtual reality (VR) content is used in an IK system supported by a touch screen, control buttons should be provided as navigation and object manipulation in a VR environment is difficult with the touch

The above presented sets of DGs have been applied at the Alistrati Cave's multimedia application (see Figures 1, 2, 3) offering a powerful tool for information provision.

The application has been designed for an IK system, which is placed outside the Alistrati Cave in an open area where visitors are queuing in order to get into the cave. The IK is designed to be supported by a touch screen and its development was made with two intentions: to prepare the visitors by providing interpretative content; to support the organisation's visitor management methods, by keeping visitors occupied while waiting to visit the Cave for the programmed guided tours (every 20 minutes).



Figure 1. The application's initial screen (splash screen)

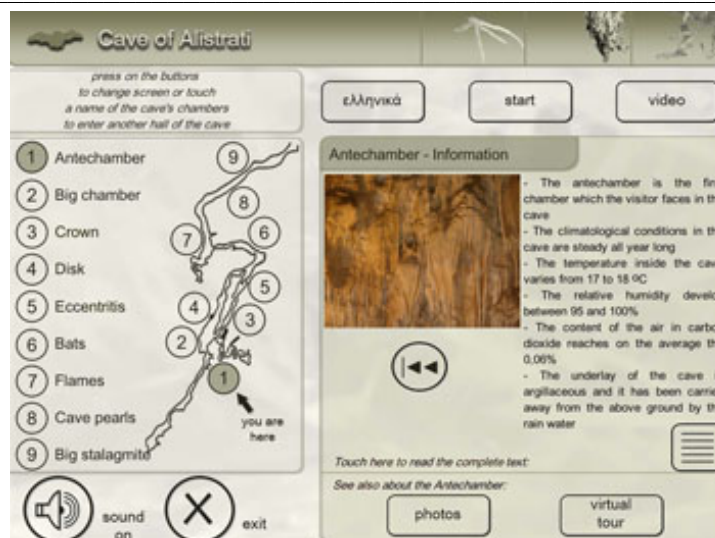


Figure 2. "Antechamber" - Layout of the section "Information"



Figure 3. Chamber "Discus" - Layout of the section "Virtual Tour"

REFERENCES

- Borchers J., Deussen O., Knörzer C. (1995), Getting It Across: Layout Issues for Kiosk Systems, *ACM SIGCHI Bulletin*, October 1995, Volume 27, Number 4, http://www.cgmi.inf.uni-konstanz.de/publications/pdf/getting_it_across_-_layout_issues_for_kiosk_systems.pdf, Accessed: 05/05/2006.
- Cranston M., Clayton D.J., Farrands P.J. (1996), Design and Implementation Considerations for an Interactive Multimedia Kiosk: Where to Start, *ASCILITE Conference, 2 – 4 December 1996, Adelaide, South Australia*, <http://www.ascilite.org.au/conferences/adelaide96/papers/04.html>, Accessed: 05/05/2006.
- Chaparo B., Stumpfhauser L. (2001), Designing a Touch Screen Kiosk for Older Adults: A Case Study, *Usability News*, 3.1, <http://psychology.wichita.edu/surl/usabilitynews/3w/kiosk.htm>, Accessed: 05/05/2006.

- Elgin C. Z. (1997), *Nelson Goodman's Philosophy of Art*, Garland Publishing, London & New York.
- Maguire M.C. (1999), A Review of User - Interface Design Guidelines for Public Information Kiosk Systems, *International Journal of Human-Computer Studies*, 50 (3), <http://ui4all.ics.forth.gr/UI4ALL-97/maguire.pdf>, Accessed: 05/05/2006, pp. 263-286.
- Τερκενλή Θ.Σ. (1996), *Το πολιτισμικό τοπίο: Γεωγραφικές Προσεγγίσεις*, Εκδόσεις Παπαζήση, Αθήνα.

ΣΧΕΔΙΑΣΤΙΚΕΣ ΠΡΟΔΙΑΓΡΑΦΕΣ ΓΙΑ ΤΗΝ ΠΡΟΒΟΛΗ ΟΠΤΙΚΟΑΚΟΥΣΤΙΚΟΥ ΠΟΛΙΤΙΣΤΙΚΟΥ ΠΕΡΙΕΧΟΜΕΝΟΥ ΣΕ ΚΙΟΣΚΙΑ ΠΛΗΡΟΦΟΡΙΩΝ

Σαμαρούδη Μυρσίνη,¹ Οικονόμου Δάφνη²
Τμήμα Πολιτισμικής Τεχνολογίας και Επικοινωνίας
Πανεπιστήμιο Αιγαίου
Διεύθυνση: Τμήμα Πολιτισμικής Τεχνολογίας και Επικοινωνίας, Πανεπιστήμιο Αιγαίου,
Χαριλάου Τρικούπη και Φάωνος, TK 81100
Πόλη: Μυτιλήνη
Χώρα: Ελλάδα
E-Mail: ¹m.samaroudi@ct.aegean.gr | ²d.economou@ct.aegean.gr
URL: ¹<http://ct-green.ct.aegean.gr/~ctma03009> | ²<http://www.aegean.gr/culturaltec/economou>

Περίληψη

Στόχος της ανακοίνωσης είναι η κατάδειξη συγκεκριμένων σχεδιαστικών κατευθύνσεων για την υλοποίηση εφαρμογών πολυμεσικού - οπτικοακουστικού πολιτιστικού περιεχομένου σε κιόσκια πληροφοριών.

Τα κιόσκια πληροφοριών ή πληροφοριακοί σταθμοί είναι πληροφοριακά συστήματα με ιδιαίτερες σχεδιαστικές απαιτήσεις που απευθύνονται σε ευρύτατο κοινό με ιδιότυπες ανάγκες. Τα κιόσκια τοποθετούνται σε κομβικά σημεία των μουσείων ή των εκθέσεων και συμβάλλουν στην ερμηνεία του πολιτιστικού περιεχομένου. Βασική παράμετρος της λειτουργίας τους είναι η εύκολη χρήση, αφού απευθύνονται σε κοινό, το οποίο δεν είναι απαραίτητα εξοικειωμένο με την τεχνολογία. Ο εμπλουτισμός μίας εφαρμογής για κιόσκι με πολυμεσικό υλικό καθιστά ευχερέστερη την πρόσβαση και την κατανόηση της πληροφορίας.

Ιδιαίτερα σημαντικές παράμετροι για την κατανόηση του περιεχομένου, που προβάλλεται σε ένα κιόσκι πληροφοριών, αποτελούν οι προδιαγραφές σχεδίασης της εκάστοτε εφαρμογής πολυμέσων. Αυτές αφορούν τόσο ζητήματα διανοητικού, όσο και φυσικού σχεδιασμού του συστήματος ανάπτυξης λογισμικού. Στην ανακοίνωση αναπτύσσονται θέματα που σχετίζονται:

- με την πρόσβαση, την είσοδο και τη διάδραση του χρήστη με το σύστημα και
- με τα επιμέρους χαρακτηριστικά της διεπαφής χρήστη και τις προδιαγραφές των πολυμεσικών - οπτικοακουστικών πόρων μίας εφαρμογής.

Ως περίπτωση μελέτης των προδιαγραφών σχεδίασης ενός συστήματος πολυμέσων για κιόσκι πληροφοριών παρουσιάζεται η εφαρμογή, που υλοποιήθηκε για το Σπήλαιο Αλιστράτης Σερρών. Η εν λόγω εφαρμογή αναφέρεται στην εμπειρία της επίσκεψης σε ένα χώρο 'έκθεσης' φυσικής κληρονομιάς. Ωστόσο, σχετίζεται άμεσα με τη μουσειακή εμπειρία και τις ανάλογες επιτελούμενες ερμηνευτικές διαδικασίες, εφόσον και στις δύο περιπτώσεις τα πολιτιστικά και φυσικά αγαθά γίνονται κατανοητά κάτω από όρους συμβολικών πολιτισμικών συνειδησιακών διεργασιών.

Λέξεις κλειδιά: κιόσκια πληροφοριών, σχεδιαστικές προδιαγραφές, διαδραστικές εφαρμογές, πολυμεσικοί πόροι, πολιτιστική και φυσική κληρονομιά.