Convergence of Culture and ICTs: E-Culture

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Abstract. In modern society where digital technology prevails, the combination of Information and Communication technology (ICT) and the various human activities created the term e-services. This paper presents an e-culture services portal, focusing on e-culture applications like e-literature, e-gallery and music servers. The user-visitor has the opportunity to navigate through its pages which contain a large amount of information about Greek literature, galleries and music in the form of text, images and sound. Although it started as an early e-culture application, today it has been updated with new web-based technologies, in order to be accessible by people with visual disabilities, using dynamical techniques for content management. Its goals are mainly to make the so-called "Information for All" scheme a palpable reality and secondly to spread the aforementioned Greek cultural heritage aspects to a global level.

Keywords: e-culture, e-literature, e-galleries, music server, ICT.

1 Introduction

Information and Communication Technology (ICT) and culture are the words used in any conversation of policy related to digitization or new media in the field of arts and letters [1,3]. This has to do with the relationship between ICT and the production and consumption of art and culture. Combining the above, the term 'e-culture' is used. In theory, e-culture comprises all processes of expression and reflection in the digital domain. That also includes, for instance, communities that share a certain lifestyle, interests or ideas [4].

E-culture has many extensions involving cultural activities such as dancing, music, theatre, poetry, literature, painting etc. In this paper, special attention is given to galleries of art, literature and music, studying their perspectives in the electronic field [2].

Firstly, new galleries place a high value on accessibility and also on aesthetics. In a time when the use of computers is considered imperative in order to transmit the historical memory from generation to generation, the Electronic Gallery has been created, intending to expand into the digital era the role of cultural exhibitions.It is moving away from rows and rows of objects each fronted by a label containing limited and specific information. Strange then, that when these new galleries start to digitize their collections they produce huge databases with modern agent-oriented

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methodologies [3,5,8,10]. More and more fake pieces circulate, without the possibility of scientific examination. The researchers, collectors and art lovers are in direct need of a responsible documentation which can be achieved by digital technology.

Furthermore, the expansion of e-literature and web based bibliographic data has increased awareness and accessibility of material. As web based material has developed, sites have often become more complex due to the volume of material [16]. In the field of electronic publishing, editors of poetry and fiction can no longer rely exclusively on the standard editorial practices that have long served the print world [20,21]. Also, the literary community can no longer afford to treat text on the screen as if it were print read in a vertical position. Electronic text has its own specificities. A deep understanding of them would bring into view by contrast the specificities of print, which could again be seen for what it was, a medium, and not a transparent interface [19].

Finally, music technology over the Internet has improved dramatically over the last years. Music online access, distribution and broadcast transmission are feasible owing to technologies like audio encoding, high bandwidth telecommunications networks, end-user resources and behaviors. The biggest push in low bit-rate audio coding has taken place quite recently, due to the fast development of the Internet where extremely low bit-rates are required while preserving the subjective quality of the original signal [23,24,25].

2 Abstract Level Description

The structure of the system's described content consists of the following steps. It has to do with the appearing of e-culture aspects (e-literature, e-gallery and music server).

In the first step, a list of the categories of this portal appears. As a result of this categorization, the visitor can easily and quickly access the category of his choice.

The second step includes the category of Greek Literature. For this category, a separation into two major time periods is done in order to facilitate the user-visitor. Moving on, there has been a study so as to find the most representative literary pieces of work that marked each age providing spherical information.

At the third step (Net Gallery category), a careful choice of exhibitions and artists is made, showing an adequate sample of modern Greek painting. Furthermore, a concise look in the work of every painter takes place, choosing his/her most characteristic creations and other important information which will be described later in this article.

Following the same logic, in the fourth step (Music Server category) and after extensive search the most representative artists, orchestras and choruses are presented, in order to show the evolution of music from the ancient years until nowadays.

Moving on, the cultural content of all categories, which emerged from the previous steps, is written and embedded into the whole system in various forms (text, image, music).

Lastly, there was a thorough study of the system standards and outlines. The further goal was to choose the appropriate techniques and technologies which would be used, so as to constitute the final product user-friendly and, more importantly, to live up to the needs of disabled people, and especially those with visual disabilities

3 System Analysis

This portal's opening page depicts an image reflecting the digital era, in order to introduce the visitor from the beginning to the ambience which it presents. It has a simple but functional structure so that the visitor can easily navigate throughout the various categories of information presented (Figure 1).

Fig. 1. E-culture services opening page

By choosing the category Gr Literature, a menu appears instructing the user-visitor to select between two links:

- Ancient Literature
- Modern Literature

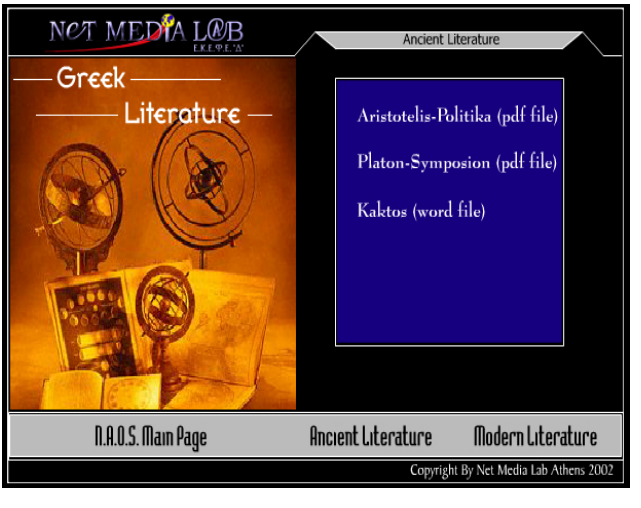


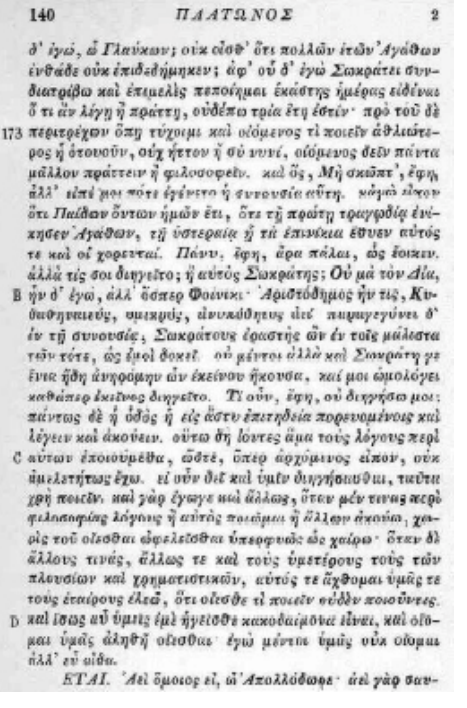
Fig. 2. Ancient literature menu

The above page also gives information about when it was constructed, the updates that were made to it and the features that it provides, concerning people with visual disabilities.

At this point, the user-visitor has the option to choose one of the above links entering either ancient or modern Literature.

On the one hand, if the selection is Ancient Literature a new page appears (Figure 2) with a menu containing the most representative ancient Greek philosophers and publishing agencies.

When the user selects one of the above links he/she will gain access to the ancient Greek authors' works in the form of e-books (pdf or doc format) in the original language that they where written (ancient Greek). An example is depicted in Figure 3.



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δ' ἐγώ, ὦ Γλαύκων; οὐκ οἶσθ' ὅτι πολλῶν ἐτῶν Ἀγάθων ἐνθάδε οὐκ ἐπιδεδήμηκεν; ἀφ' οὗ δ' ἐγὼ Σωκράτει συνδιατρίβω καὶ ἐπιμελὴς πεποίημαι ἑκάστης ἡμέρας εἰδέναι ὅ τι ἂν λέγῃ ἢ πράττῃ, οὐδέπω τρία ἔτη ἐστίν· πρὸ τοῦ δὲ
173 περιιόντες ὅπῃ τύχοιμι καὶ οἰόμενος τι ποιεῖν ἀθλιώτερος ἦ ὁτουοῦν, οὐχ ἧττον ἢ σὺ νυνί, οἰόμενος δεῖν πάντα μᾶλλον πράττειν ἢ φιλοσοφεῖν. καὶ ὃς, Μὴ σκῶπτ', ἔφη, ἀλλ' εἰπέ μοι πότε ἐγένετο ἡ συνουσία αὕτη. κἀγὼ ἔφην ὅτι Παίδων ὄντων ἡμῶν ἔτι, ὅτε τῇ πρώτῃ τραγῳδίᾳ ἐνίκησεν Ἀγάθων, τῇ ὑστεραίᾳ ᾗ τὰ ἐπινίκια ἔθυεν αὐτός τε καὶ οἱ χορευταί. Πάνυ, ἔφη, ἄρα πάλαι, ὡς ἔοικεν. ἀλλὰ τίς σοι διηγεῖτο; ἢ αὐτὸς Σωκράτης; Οὐ μὰ τὸν Δία,
B ἦν δ' ἐγώ, ἀλλ' ὥσπερ Φοίνικι· Ἀριστόδημος ἦν τις, Κυδαθηναιεύς, σμικρός, ἀνυπόδητος ἀεί· παραγεγένει δ' ἐν τῇ συνουσίᾳ, Σωκράτους ἐραστὴς ὢν ἐν τοῖς μάλιστα τῶν τότε, ὡς ἐμοὶ δοκεῖ. οὐ μέντοι ἀλλὰ καὶ Σωκράτη γε ἔνια ἤδη ἀνηρόμην ὧν ἐκείνου ἤκουσα, καί μοι ὡμολόγει καθάπερ ἐκεῖνος διηγεῖτο. Τί οὖν, ἔφη, οὐ διηγήσω μοι; πάντως δὲ ἡ ὁδὸς ἡ εἰς ἄστυ ἐπιτηδεία πορευομένοις καὶ λέγειν καὶ ἀκούειν. οὕτω δὴ ἰόντες ἅμα τοὺς λόγους περὶ
C αὐτῶν ἐποιούμεθα, ὥστε, ὅπερ ἀρχόμενος εἶπον, οὐκ ἀμελητέως ἔχω. εἰ οὖν δεῖ καὶ ὑμῖν διηγήσασθαι, ταῦτα χρὴ ποιεῖν. καὶ γὰρ ἐγωγε καὶ ἄλλως, ὅταν μέν τινας περὶ φιλοσοφίας λόγους ἢ αὐτὸς ποιῶμαι ἢ ἄλλων ἀκούω, χαίρω τοῦ οἴεσθαι ὠφελεῖσθαι ὑπερφυῶς ὡς χαίρω· ὅταν δὲ ἄλλους τινάς, ἄλλως τε καὶ τοὺς ὑμετέρους τοὺς τῶν πλουσίων καὶ χρηματιστικῶν, αὐτός τε ἄχθομαι ὑμᾶς τε τοὺς ἑταίρους ἐλεῶ, ὅτι οἴεσθε τι ποιεῖν οὐδὲν ποιοῦντες.
D καὶ ἴσως αὖ ὑμεῖς ἐμὲ ἡγεῖσθε κακοδαίμονα εἶναι, καὶ οἶμαι ὑμᾶς ἀληθῆ οἴεσθαι· ἐγὼ μέντοι ὑμῶς νῦν οὐκ οἶμαι ἀλλ' εὖ οἶδα.

ΕΤΑΙ. Ἀεὶ ὅμοιος εἶ, ὦ Ἀπολλόδωρε· ἀεὶ γὰρ σαυ-

Fig. 3. Platos' 'Symposion'

On the other hand, if the selection is Modern Literature, the page that opens has the same structure as the previous one and links to either the National Society of Greek Authors (word format) or the Hellenic Authors Society (a web portal) in order for the user to learn about a large number of contemporary Greek authors.

Returning to the e-culture services main page, the Net Gallery category comes to the fore. Entering this page (Figure 4) one can see that the introductive graphic arts application is familiar with the presented category. It contains a menu with selected exhibitions of a single or various artists as well as the activities of an international exhibition centre concerning paintings by children with visual disabilities.

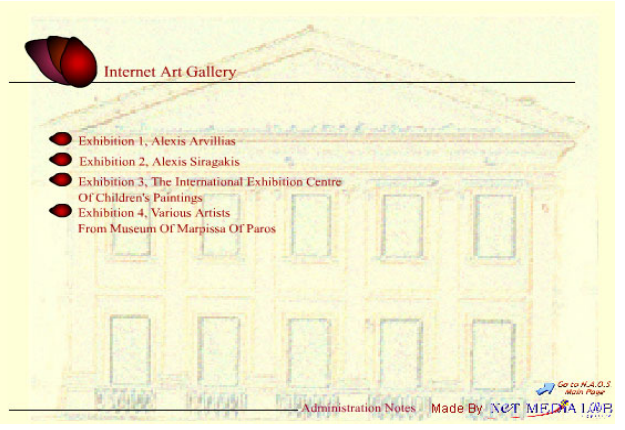

Fig. 4. Net gallery's main page

In the artists' exhibitions the given information is organized in such a way that it is brief, without redundant elements. In particular, in an artist exhibition one can learn where and when this exhibition was hosted, a information about the artist, and of course one can watch selected exhibits in the form of digital images just like a small gallery.

By choosing an image from the exhibition page, the user-visitor can view an exhibit in its actual size so as to have a clear picture of it.

Furthermore, the activities of the international exhibition centre concerning paintings by children with visual disabilities, are described with information given about the establishment of the centre, its aims and the people involved enhanced with images showing these children's efforts.

Finally, the music server category will be analyzed. Selecting the link Music Server from the main e-culture services page, the page depicted in Figure 5 appears. Here the user-visitor has a variety of options to hear, from individual compositions to orchestras and choruses.

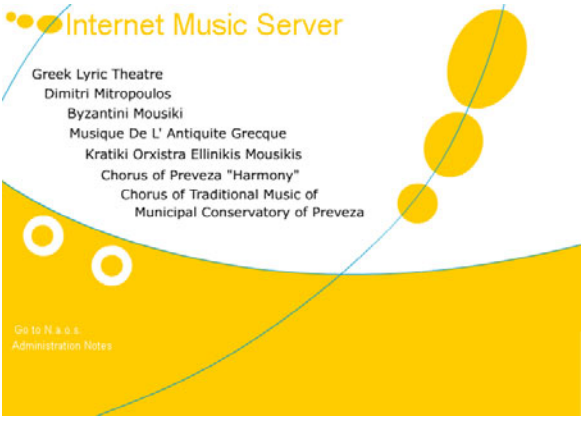

Fig. 5. Music server opening page

Following one of these options will lead to a new page which contains tracks and information about an artist or an orchestra. The field of information has been analyzed in the previous categories and is functioning in the same way. Focusing on music tracks, when the correspondent link is chosen the track will begin to play with the Internet Explorer (IE) streaming media player.

To sum up, it can be said that the user-visitor has an integrated point of view of the above e-culture aspects as they are presented through the system. Of course one cannot omit the fact that the knowledge-information projected in the system is also available to people with visual disabilities, through Flash technology, (Figure 6) which is the backbone of the system (zoom-in function with a navigation tool due to limited space, music pieces). This way, the system follows the ‘‘information for all’’ logic and principle [7].

Fig. 6. Zoom-in function

4 Benefits

The benefits of an e-culture system like the one described in this paper and its importance to the information society can be focused on the following:

• The diffusion of Hellenic arts and letters in a universal level. Moreover, these forms of cultural content are at the disposal of every Greek citizen, to the Greeks abroad and finally to foreign people who are eager to learn more about Greek culture

• The cultural information is accessible by everyone even in remote places, at any time and with minimum cost [6,18,26]. Limitations such as space, time, weight (e.g. for printed books to carry along) etc. are being eradicated. As a result, there is access to an enormous amount of information, contrary to conventional methods

• Easy access to cultural information is provided to disabled people complying with the logic «equal access and knowledge for all»

• Saving and creating digital cultural content can lead to the preservation of cultural information during the course of time due to the constant physical degradation of paintings, printed books etc. This content can also be easily transferred and reproduced due to its effective electronic format [7,24]

• The projection of a country's cultural heritage can yield immediate results to the social sector of a country like the development of tourism and in a wider sense the development of its economy [9,12]

• The digitization of cultural content of all kinds can be beneficial for students and scientists either for educational or research purposes [15,17,22]

• Finding new information out of existing information from other recommended resources

• Creating new arts with the help of ICT tools, like graphic design, digital photography etc. As a result, new modern artists appear and simultaneously new professions and job vacancies are created by the initiation of innovative projects [2,11]

5 Future Work

The system presented, is the first creative stage of an integrated e-culture system about navigation through various e-culture objects. The system described in this paper is constructed with the HTML programming language incorporating at the same time the FLASH technology in order to achieve better visualization, and Windows Media Player in order to achieve music reproduction. The future goal of the presented system is the creation of an up-to-date integrated e-culture system using modern techniques and technologies. Great importance will be given to the promotion and presentation of cultural information, due to the fact that there are new techniques and tools in the area of informatics such as:

• 3-tier architecture system
• Relational Database systems
• Virtual Reality
• Digital Photography
• DVB Technology
• Learning environments
• Mobile access to cultural information
• Location-based services
• New displays and user interfaces
• Virtual communities

New features will be added, such as archives, accounts, digital photographs, comparative illustration, explanatory documentation, user evaluation, adding material in the form of scrapbooks etc. [13,14].

6 Conclusions

From the detailed analysis carried out throughout this paper, the numerous advantages of the system that supports e-culture services became clear. Its main benefit is none other than the fact that it offers the pioneering experience for both a beginner user-visitor and an expert scientist-researcher to unify two completely different worlds, the real and electronic worlds simultaneously.

Nowadays, a great challenge exists in the field of e-culture. The development of such systems is demanding. A contemporary one should be economical in development and maintenance, updatable and expandable. It should also achieve performance with limited resources, budget or schedule, and should have brief and focused content.

Culture is dynamic and creative at its core. Galleries, literature and music are centers for creativity. They embody the accumulated cultural energy of contemporary and other times. Exploiting them, they turn into powerful catalysts for innovation, towards a better society.

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