

INTEGRATED TOURISM MANAGEMENT

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I. Abstract

Because the changes in technology, especially in the Internet area are more and more striking, it is necessary for us to keep up with this changes. That is why many of us are now aware of the importance of the Internet and are using it almost everyday. In tourism the changes are perceived especially in the modifications observed in traveller's behavior. Today's travellers are more fastidious in choosing their destinations. This is why they are testing the market much more than they used to do before and are looking for precise information about the prices, the offers and the events in a specific area. The online market provides this information, but it is not enough to have the information, also it is ought to have the power to sell it. This site aims first to serve and than to delight the actual and potential tourists who are willing to travel and visit Romania, using a website which respects the best programming methods for this type of commercial activities.

II. Introduction

The internet has progressed extremely fast in the last few years. At first it was a land of academics, researchers and of defense agencies from United States, but it quickly moved into the economic sector, which has become an environment used by many, a new way of exchanging information between individuals, companies and people from all over the world. [Jesus, 1999]

As part of the internet, World Wide Web is the main sector in the global development of computer interconnection. Its language is simple, the interfaces are attractive and friendly and it is adaptable to a large range of uses. There are websites used for selling products and ideas, maintaining appearances, for public information, continuing studies or just navigating the internet for pleasure. Conceptually the World Wide Web is adapted to internal communication through installing intranets inside the company. [Argerich, 2003]

HTML (Hypertext Marking Language) is the language that has the role of creating the graphic interface. This is made of a diversity of elements called tags, which can be used for many purposes, from defining types of styles and headers to introducing content such as images, sounds or words in the virtual reality and Java mini-applications. [McCarty, 2002]

Websites have suffered a substantial improvement since their appearance, giving us, today, many information, good presentation, friendly interface with updated information

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and easy to find. A clean and dynamic website should increase the superiority of the user and the information supplier, by offering current, concrete and correct data.

A modern website does not limit to being a web server, it includes ways of storing data and its interrogation (maybe a SQL database), ways of communication with the user and creating documents with appropriate interface. The list of available options for developing a website is long, but not all of them are equally open and general one towards the other. The accessibility and availability of an option are not the only criteria of selection, but the capacity of continuously providing content, respectively independent of the technological changes of software of hardware. [Jesus, 1999]

The general desire for any website is to be assured against future technology changes, to minimize the licensing costs, to keep the hardware budget under control and to offer portability for different servers and platforms. [Darnell, 2011]

III. Purpose

This paper aims to resolve one of the organizing problems of Romanian tourism by developing and extending a site that will offer the possibility of its users of organizing a vacation in Romania by choosing their means of transport, accommodation and its degree of comfort, the accommodation periods and travel offers.

Complementary to this, we will develop the possibility of using the service of electronic payment, therefore offering transparence and increased security.

The target is the middle class and top class from Romania, for whom we will develop a large range of services, from half-boards and pensions to middle level hotels or with an increased degree of comfort and facilities for everybody.

The handicap, if we can call it this way, that appeared in the Romanian tourism is due to the fragmentation of services by areas and exaggerated commissions charged by travel agencies, to which we add the lack of price competitiveness for similar services compared to other countries such as Bulgaria or Ukraine.

Another problem is the lack of communication between companies that offer services in the same domain. A concrete example is given by companies that offer passenger transport and the ones that offer rent-a-car, and because of the lack of communication, these types of companies do not promote each other. This project aims to overcome these commercial barriers in order to integrate in a synergistic system a great part, if not all the range of travel services from Romania.

Because of the great size of this project, but also because of the relative short period available for its creation, we will develop only certain modules according to their degree of importance, pursuing the following order of priorities: possibility to subscribe and unsubscribe to newsletter, accounts and users, cruises, card payment, other type of services.

This way, travel agencies, intermediary firms and the traditional travel catalogs are going to be eliminated, making way for an integrated system of tourism management that assures direct communication between the service supplier and client or tourist, in our case. One of the main concerns with which the Romanian system is up against is the safety of on-line payment, which is why we will put much emphasis on this chapter. The strength of it is represented by the degree of innovation realized through covering a vast area, number of services and companies.

IV. Issues Proposed For Implementation

The issues proposed for implementation are the following:

- Appropriate graphics for tourism business
- Simplicity in navigation
- Intuitive in following the steps towards finalizing the order
- Fast loading of the site in browser
- Creating personalized accounts that offer increased security
- Subscribe and unsubscribe to newsletter
- Password recovery
- Security against data theft
- Integrating PayPal payment system
- To be easily found in search engines
- Marketing of tourism services

V. Conclusions On The Technology And Used Applications

Analyzing the functions and necessary activities in a travel application, I have decided that the best way to approach this project would be a Web application.

In creating this application, for rolling the program, I used a free distribution called XAMPP that contains modules PHP, PEAR, Mercury, Apache and Tomcat, which were chosen based on criteria of efficiency and simplicity in operating. The PHP module was used to create php scripts, MySQL was used to create the database, Mercury was used for mail service, and The Apache module was used for rolling the created system.

The editing of the content was realized in Adobe Dreamweaver CS4, using the product in the evaluation period, with the main criteria of selection being the interactivity of realization and correction of the html and css code.

In the site, I introduced structures as jQuery JavaScript and JavaScript for interactivity. These were available free on www.dynamicdrive.com, each license being present on the page of the code.

The pictures used have been taken from a variety of sites with touristic or informational profile, with no need of licensing because these were not used for commercial purpose, the present project being just a prototype.

Service payment is possible through PayPal, an intensively used service in the United States, which offers security and credibility to the commercial activities carried out directly by the site.

The structure of the application has been realized and optimized for rolling efficiently on browsers Mozilla Firefox and Google Chrome.

The testing was realized with TestComplete 8, using a license free for 30 days.

In conclusion, we can see that there were no licensing costs, mentioning that the main criterion of selection of the products was obtaining them without any costs.

VI. Navigation Options

In the case of websites, the user has access to them by using a web browser, the data transfer being done through internet and offering him a navigation between information. Navigation is guiding users in the site through photos and text to help him reach to desired areas and their related pages.

In the case of web sites that promote the sales of tourism products or services, the interactivity and the simplicity of selecting the desired product is very important, reason for which in the first page we should find connections towards the entire area of offered services and a fast access time. Annex 1 presents the main page that is the gateway of the user to the application.

“The user’s interface was once the last part of the system that projected. Now it is the first. It is recognized as being the most important, because, for novice and professional both, the computer is what appears to the senses.”³

“The commercial user illusion is, therefore, the image that the user has on the car.”⁴



Figure 1

Figure 1 presents the available service for the user by facilitating the search of the destination, choosing the type of the desired product, subscribing to the newsletter or creating and registering accounts. This range of services is generally offered to commercial sites to attract customers or to permanently inform them about new services or offers.

³ John F. Kihlstrom(1987), The cognitive Unconscious, Science 237, 1448

⁴ Tor Nørretranders(2009), Iluzia utilizatorului. Despre limitele cunoasterii, Publica, 285

Creating accounts is necessary for registering in the tourism community hosted by the site, through which the registered users have more facilities, and the administrators can do statistic studies based on the clients registered in the system.

After or during registration, the user has the possibility to subscribe to the site's newsletter that has an informative purpose regarding the promoted services.

If the user logs on the site, this information is found on every page by being displayed in the log on area of the current user logged on the site.

One of the additional options is the search itself. Any person that enters the application can search key words or information of interest, the search page displaying the desired information, and therefore facilitating the road to obtaining the wanted information.

The most important possibility that the user has is the possibility to search and buy tourism services, rent-a-car or airplane tickets. This option is presented in a dynamic way through filling forms that update dynamically according to the type of the selected service.

One of the priorities in communicating with the user or the ease of navigation is the site orientation. The user has to know permanently where he is and how he got there. Each page must contain at least one connection to the main page.

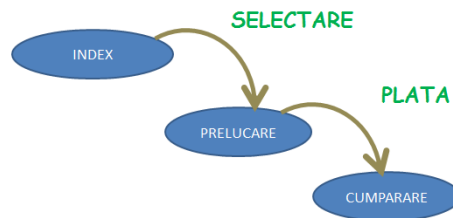


Figure 2

One of the main facilities that a commercial site has to offer is “the law of the three clicks”, meaning that a service can be bought using maximum three clicks from entering to payment. Figure 2 presents the access areas for purchasing a service. The user has to access only the index page to select the desired service, after that he is directed towards the page for processing requests and in the end he is directed to the PayPal environment to confirm the payment and to purchase the service in safe conditions.

VII. Main Frame

The main frame or the main area of inserting the specific content for every page is the section in which the user interacts with subscription or registration forms, or he searches and selects the desired service, finally accessing the payment of the service. This frame is static and it is generated in a dynamic way if the number of obtained results influences the content, after interrogating the database.

In the case of the index.php page, the main area is displayed dynamically by using a jQuery mechanism. Figure 3 presents the main area of the index where you can select three types of service packages (flight + hotel, flight + hotel + car, hotel + car) or four types of individual services (flight, hotel, car, cruise).

The screenshot shows a travel booking form on a parchment-like background. It includes sections for 'Pachete...' (packages) with radio buttons for 'Zbor + Hotel', 'Zbor + Hotel + Masina', and 'Hotel + Masina'. Below this is 'Alege Din...' (choose from...) with radio buttons for 'Numai Zbor', 'Numai Hotel', 'Numai Masina', and 'Croaziera'. The form also has fields for 'De La' (From) and 'Pana La' (To) with date pickers, 'Data Plecare' (Departure date) with a date picker and 'Oricand' (Where) dropdown, and 'Data Intoarcere' (Return date) with a date picker and 'Oricand' dropdown. There are also dropdowns for 'Adulti Copii Varstnici' (Adults Children Seniors) and 'Numarul De Camere' (Number of Rooms). A 'Cauta' (Search) button is at the bottom right.

Figure 3

In this form, there have been implemented dependencies between fields. The example below presents the dependence of the field in which it is chosen the departure point of the flight, by one of the radio buttons: flight + hotel, flight + hotel or just flight.

If another button is selected, this information is hidden.

```
<label>de la<br />
<input type="text" name="plecare" class="DEPENDS ON alege BEING zh OR alege BEING zhm OR alege BEING z" /><br />
</label>
```

In the case of the fields that require a date to be inserted, representing the departure date, the arrival date or other dates that are needed for scheduling a service, there have been inserted date selectors that allow selecting a date from a virtual calendar and inserting them in the desired field. Therefore, the user is going past inserting the dates manually and the errors that may appear because of typing errors are avoided.

```
<label>data plecare
<input type="text" class="DEPENDS ON alege BEING zh OR alege BEING zhm OR alege BEING z" id="data_plecare" name="data_plecare" size="16">
<a href="javascript:NewCal('data_plecare','ddmmyyyy')">

</a><br />
</label>
```

VIII. Service Payment

In the case of this application, the trust inspired to the users is necessary because they can purchase services from the presentation catalog, reason for which the safety of the payment must be one of the strengths of this project.

As a payment mean, the PayPal service has been used to facilitate the transfer and the safety of the transaction.

The user is guided from the site to the payment environment, and when the payment is completed, the user receives a confirmation mail and the ticket for the service.

The administrator can visualize at any moment the service stock and he is notified if the service is out of stock.

The code generated by the PayPal for each button contains the same structure of the form, only the id of the button is different, and because of that I have decided to keep only this information related to each button. The rest of the code is included only in the display area of the results, realizing and at the same time avoiding the existence of redundant information.

It is important to remember that no other information regarding the site or about the offered products or services will be sent toward the payment service outside the id related to the service. This way the payment can't be hacked because PayPal already has the information regarding the name and the price of the service. If the user tries to modify the product id, either he is directed towards another service which may or may not belong to the current site, or it can belong to a different site, which is not the object of the current project.

At the click of the connection to buying the service the www.paypal.com site is opened in the section designated for the payment of the current service. Here you can visualize information regarding the email address of the seller, the name and the price of the service, the quantity and eventually additional fees. For the services marketed on "Travel in Romania" there have not been charged any additional fees because the services are fictive and since the site is not hosted by any server, nobody can buy these products, and no legal measures of the electronic commerce from Romania are being violated.

The situations mentioned below are part of the PayPal service, an ideal method and secure for service payment considering that the commission charged justifies the level of safety and transparency.

IX. Security

The data is an important resource that has to be strictly administrated and controlled. Any SGBD has the role of guaranteeing that only users have access to the database. Consequently, the database has to assure the security against unauthorized access. However, the security at the application level and the data security implies more than the safety of SGBD, which is why we have to insist on reducing access possibilities from

outside or in other words, the security of the database refers to elements of hardware, software, persons and data. [Connolly, 2001]

The database represents a collective collection of data in which the main problems of security have a close connection to the following situations:

- Theft and fraud
- Losing confidentiality
- Losing the private character
- Losing integrity
- Losing availability

The password safety is realized through Encryption by using the algorithm md5. This algorithm calculates for each string a control sum that will always be the same for that string, but in the conditions of the smallest change of the string there is a major modification of the control number. [Stephanidis, 2007]

The security has been developed in order to not allow an attack through automatic generation.

This way, there have been implemented methods of blocking for the user and for the ip. If a user misspells the password five times, ones access is restricted for an hour. This mechanism is created by deleting and creating new tables user_blocked and ip_blocked every hour, from the system that is going to host the server.

The second method of security, the existence at the level of every page that realizes the processing of certain forms is the mechanism of blocking the processing cycles if the sent data does not come from explicit forms. This way, the user is greeted by the message "authorization not allowed!" and he receives a connection to the main page.

X. Main Contribution

In Romania, there are few tourism sites that offer a large range of services and that allow the purchase of package services. Most of these are designed for a single type of service: booking, rent-a-car, cruises, and few of these are travel agencies that, thinking of their own personal wealth, market only the services that they offer.

These approaches of the market are far from satisfying the needs of the customers from Romania. The later often end up searching the desired service through search engines, than through a certain site.

The promoting segment of the Romanian tourism on the internet is far from market saturation point, which is why an investment in this domain is considered beneficial and also because of the fragmentation based on the type of services and geographical placement.

For interactivity and dynamism, the site developed in this paper uses certain mechanism of design from which we mention a captivating logo, a JavaScript structure that allows the display of the form fields for selecting the data referring to the desired service, a footer that increases only at the mouse movement, a form for creating accounts that attract the

attention of the users in a pleasant way. The display area of the registered user is created after the model of the site www.youtube.com because of its simplicity.

The design has an increased attention for the used images, colors and the displaying structure of the text has to express a warm atmosphere to the user and to incite him to come back on the site and to purchase from the range of services.

We believe that the current project presents a great potential of development, which is why the product has been realized through traditional programming, this way refusing the integration of a CMS because we wanted to maintain everything as simple and as efficient as possible, this way creating free possibilities of development, by not being limited to the performances of the integrated CMS.

XI. Project Advantages And Conclusions

Economically speaking the present solution proves to have a high level of advantage for everyone who wants to plan their vacation and to benefit of package services.

In the developed countries this approach of the tourism market has proved to be extremely beneficial because it has created a synergy between companies from different activity sectors this way forming a mechanism of mutual support.

A statistical rapport from may 2011 claims that 42,4% of the internet users navigate using Mozilla Firefox and 25.9 of these use Google Chrome.⁵

Therefore, the site "Travel in Romania!" can be accessed in optimal conditions by 63.3% of the internet users because it is optimized for these browsers.

The system advantages are:

- Time economy
- Low costs because of the elimination of intermediaries
- Low costs at the purchase of packages
- Payment safety
- Receiving tickets through email
- Warning in case of stock liquidation

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⁵ http://www.w3schools.com/browsers/browsers_stats.asp

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