

IMPLEMENTATING OF AN INFORMATIONAL SYSTEM TO REALIZE E-COMMERCE

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Abstract:

Electronic businesses (e-businesses) radically change the relations and business processes, making them easily administered and facilitating, through the Internet, a quicker reaction to the customers' demands and market tendencies. The present paper deals with the presentation of the economic foundations and the steps that should be followed when it is about the development of an electronic trade application in general, respectively of an online order application in particular. The designed application of online order is based on a server/customer architecture, case in which the majority of the applications are carried out on the application server and on the database, which allows a much better scalability of the application when it is about an amount of increasing transactions.

Key words: e-commerce, informational system, Internet, users, e-business

JEL classification: L81, L86

The information constitutes the main resource in the new economy, that is why, its support and nucleus are represented by the informational technologies and advanced communications, while its engine is represented by the Internet. Therefore, it is considered that the new economy is the economy of all types of businesses built around the Internet. The Internet plays a key part in supplying information regarding the availability of products and services and their prices within the whole economy. The new Internet technologies contribute directly to the expansion of e-commerce, of new business patterns and of e-business and to the dematerialization of products and services.

The modern business environment is characterized by an unprecedented increase in the suppliers' offers, in the global competition as well as in the customers' exigencies. All the firms in all the economic sectors have begun to adopt the new economic paradigm that is the orientation to e-business or to the new business patterns.

Today, in Romania, there are around 1500 online shops. According to the estimations made by the representatives of the companies that carry on online activities, the e-commerce will reach this year 250 million euro. In the following three years, the increase rate will be maintained, as a result of the possibilities of running Internet as well as a result of the increasing security degree in online payments. Thus, in 2010, the value of online commerce transactions will go up to over one milliard/billion euro.

Taking, as a starting point, the results of the study made about the existing, functional and successful implementations of this type of application, implementations that enjoy great possibilities offered by the Web environment, I consider that an application which offers online services, should meet the following needs:

a. The customer's needs:

- the application should have an easy-friendly and balanced interface, especially when dealing with the reporting of information necessary to carry out rapidly the orders and that of information necessary to promote the products;

- the application should keep a list of products that the customer intends to order; this list should be under the direct command of the customer (for instance, he/she can give it up any time) and it can be easily seen from every page of the application;
- the release of the order list should be a clear and explicit procedure, conditioned only by the customer's wish;
- cash should be paid on delivery and the possibility to invoice the purchased service should also exist;
- the reduction to minimum of the required information when launching an order;
- the application should keep in mind a record of orders for every customer; beside its implicit goal, the record should be used to relaunch the previous orders.

b. The supplier's needs:

- the possibility of displaying, through the application, the following information about the supplier: the name of the enterprise, the trademark, the operating system, the field of activity, the full address, the operating schedule on a certain period of time, the value of the minimum order, the promotional offers, the minimum time of execution and delivery, the delivery tax, the town and the area of delivery;
- a friendly interface designed for managing the information that the supplier will have the possibility to publish it through the application;
- a friendly interface designed for managing the orders; an order could be in one of the following situations: new, paid, sent, finished, cancelled; the supplier assumes himself ,exclusively, the responsibility for changing the situation of an order on his own rules that do not defy the true bases of his commercial relation with the purchaser;
- the information necessarily needed by the application when receiving an order should contain: the date and the hour when the delivery is going to happen (this information must follow the schedule previously established by the supplier), a phone number needed when the supplier wants to phone to confirm the order; the address for delivery (this should be in the declared area of delivery) and, eventually, if possible, the necessary data for a fiscal invoice);
- the presentation of the information about the supplier in a clear and enjoyable format;
- the application should allow a very organized and easy access both to the information about the supplier and also to those about the products, through: hierarchy of categories and subcategories of products, advanced ways of product research, the top of the most sold products and that of the most visited products, as well as the list of the products recently introduced in the application, different promotions.

In order to realize an e-commerce application, we used the formula Apache +PHP + MySQL. In this way, we managed to create an application whose goal is to allow an online command of products, commands which are checked by the application's administrator and which will be delivered according to certain criteria.

The application has the following functionalities:

- running through the categories of products;
- visualization of a product and magnification of the image;
- possibility of choosing a product and the desired quantity;
- visualization of the products found in the basket and the money that should be paid;
- possibility of modifying the quantity of a certain product found in the basket;
- possibility of giving up to one or all the products found in the basket.

Obviously, to every type of user will correspond a starting page, an "index" page, which has to combine the following declared requirements: to contain useful

options and information for the user, to have a nice look and to load rapidly. As to the “index” pages, certain elements were defined, such as:

- the *Header* can contain a banner with the name of the shop;
- the *Footer* contain all the necessary information for the application and for the supplier;
- the *Menu* put at the user’s disposal is positioned on the left side of the page under the header, and it contains all major options which it benefits within this application;
- the *Main icon* is the point where the action takes place. All the user’s actions will be materialized by changing the content of this icon. The change can be accomplished in a centralized way, thus being determined by choosing a certain menu option by the user.

The structure given to the index pages imposes a way of using the application that can be characterized by simplicity and rapidity in usage.

Further on, it is presented the way of shopping online. The visitor has the possibility of searching and choosing one or more products, putting them in the basket and later on buying them. When he enters the main page, he sees the list of the categories. By selecting a category, he can see the list of the products from that category. Later on, with a simple click on a product on the list, he can visualize the details of the respective product.

The list of the products allows the visualization of products belonging to a certain category, that appear three on the row and column, as it is shown in Figure 1.

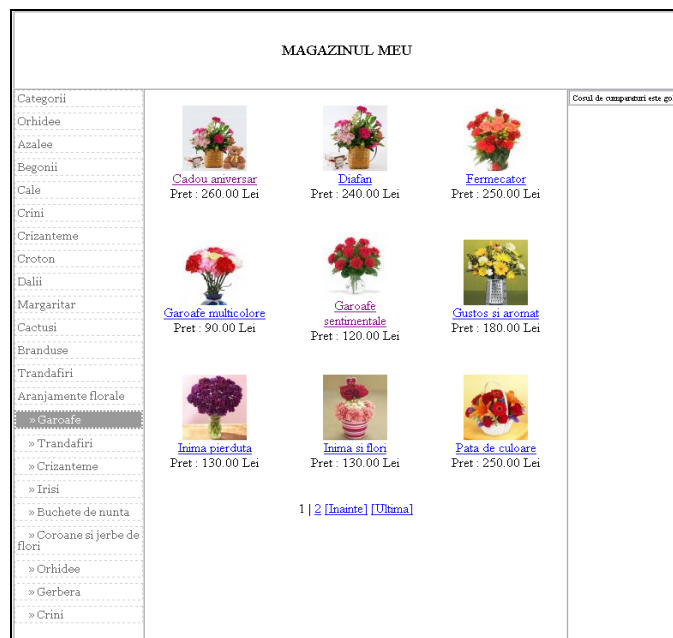


Figure 1 – The list of the products from every category

When a product on the list is chosen, the page with the details of the products is displayed. For every product, it is displayed the image, the name and price and the button ‘Add in the basket’, as it is shown in Figure 2. This button appears only if the product is still in stock. When a product is out of stock, the message ‘Stock 0’ will be shown in place of the button. When a click is given on the button ‘Add in the basket’, a redirection to the page of the purchasing basket is accomplished. The addition of the products in the basket implies the following operations:

- the product is checked in the database;
- the product is checked in the stock (quantity > 0) ;

- if the product is still in the basket, the quantity is increased;
- if not, the product is added into the basket.



Figure 2 – Choosing a product

If the process of adding the products into the basket is not continued by adding an order from the part of the purchaser, the basket remains loaded till the next day, when it is considered abandoned and emptied automatically.

After the product has been added into the basket, on the right side, on the same page where the details about the product are specified, the mini-basket with products is displayed. It displays all the products found into the basket at that moment, as well as the total value of the basket. As long as no product has been added, instead of the mini-basket, a message is shown: “Your basket is empty”. If there are products in the basket, the page where the basket is displayed, shows as in the Figure below.

Produs	Pret Unitar	Cantitate	Total	
 Garoafe sentimentale	120.00 Lei	<input type="text" value="2"/>	240 Lei	<input type="button" value="Sterge"/>
 Diafan	240.00 Lei	<input type="text" value="1"/>	240 Lei	<input type="button" value="Sterge"/>
Sub-total			480 Lei	
Cost expediere			5.00 Lei	
Total			485 Lei	
				<input type="button" value="Salveaza Cosul"/>
<input type="button" value="«< Continua cumparaturile"/>		<input type="button" value="Plateasc >>"/>		

Figure 3 – Shopping basket

Every line shows the thumbnail and the name of the product, the price per unit, the quantity and the subtotal. On every line, there is a button “ Delete” for deleting the products one by one (if it is desired).

Further on, the purchaser has the possibility to go on buying, or to initiate the payment process. The process of launching a command is accomplished in three steps:

1. The introduction of the information about delivery and payment;
2. The confirmation of the ordered products, of delivery information and choosing the way of payment;
3. Saving the information in the database. If the desired way of payment is “Cash” when receiving the parcel, the next page presents the thanks message addressed

to the customer/purchaser. In case the option “Pay pal” was chosen, the purchaser is directed to the pay pal server where he has to create his own account and to buy online, according to the conditions on the respective site.

Pasul 1 / 3 : Introduceți Informațiile despre Expediere și Plata

Informații despre Expediere	
Prenume	Nicolae
Nume	Popescu
Adresa1	Str. Crizantemelor, Nr.15, Bl.A2, Sc.B, Ap.16
Adresa2	
Numar telefon	0728654321
Tara	Romania
Localitatea	Pitesti
Cod Postal	115500

Informații despre Plata	<input checked="" type="checkbox"/> Aceleasi ca la informații despre Expediere
Prenume	Nicolae
Nume	Popescu
Adresa1	Str. Crizantemelor, Nr.15, Bl.A2, Sc.B, Ap.16
Adresa2	
Numar telefon	0728654321
Tara	Romania
Localitatea	Pitesti
Cod Postal	115500

Modul de Plata ePayment Numerar

Figure 4 – Shopping online

On the confirmation page(step 2), there is a list with the ordered products, subtotals and the total sum of money to be paid, as well as certain information about delivery. Finally, these data are saved and the purchaser receives a confirmation message that the order made was registered.

Pasul 2 / 3 : Confirmarea Comenzii

Produse comandate		
Produs	Pret Unitar	Total
2 x Garoafe sentimentale	120.00 Lei	240 Lei
1 x Diafan	240.00 Lei	240 Lei
	Sub-total	480 Lei
	Cost expediere	5.00 Lei
	Total	485 Lei

Informații despre expediere	
Prenume	Nicolae
Nume	Popescu
Adresa1	Str. Crizantemelor, Nr.15, Bl.A2, Sc.B, Ap.16
Adresa2	
Numar telefon	0728654321
Tara	Romania
Localitatea	Pitesti
Cod Postal	115500

Modul de plata Numerar

<< Modifica Info Expediere/Plata Confirm Comanda >>

Figure 5 – Confirmation of the ordered products

CONCLUSIONS

The primary principles of an e-business are the same of any traditional business, carried on in the real economic environment: it is taken into consideration a target audience or service offered for sale. As a consequence of the meeting between offer and demand, the consumer will receive the product, and the producer will receive its countervalue, that is, the producer will invoice the countervalue of the service offered to the consumer, being to receive the due sum of money.

In case of e-business, the major difference consists in that these types of businesses permit the automation of sale and purchase processes. In a typical shop, there are employees who help the consumer buy different items. In case of virtual shops, the employee is the site itself, which works 24 hours a day, 7 days a week, throughout a year, incessantly, and all these are done in order to increase the business profit.

There is a series of advantages to develop an online business:

- The possibility of small firms to compete with big firms. Because of the reduced costs that the opening of a virtual shop implies, the small firms deal with a difficulty in entering on the markets dominated so far by big firms.

- Keep in touch with the customers 24 hours a day, 7 days a week. Unlike the ordinary employees who need wages, a working schedule, holiday, whose productivity varies and who are subjective, a web site gives information about the firm and its products or takes over and processes commands all the time with the lowest costs. This brings another advantage when taking into account the extension on the international markets, when the difference in the time zone could have hardened the contacts between the firms.

- The facility to enter on the international markets. The international network is not limited by borders, it is not in anyone's possession, and the access and the publishing costs are extremely reduced. The communication with a customer from another part of the world is as easy as with a person from the other room. A manufacturing firm can sell now its products in any other country through a web site, without being necessary to establish contacts with local firms or to make huge investments.

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