Creation of Pharmaceutical Inquiry Network

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Abstract

Information network "PHARMINFO" is a computer database of the pharmacy products in Armenia. The system is created on the basis of Lotus Domino/Notes R5. For the network database Server Lotus Domino R5 is chosen. It is the latest release of power document oriented database system, which supports all web technologies. The main difficulty was creating the secured client/Server technology database. Each user can edit and administer only his own records. All local copies on the workstations may be regularly and automatically replicated (updated) with the main database, placed on the Server.

The "PHARMINFO" is marked out with its peculiar technical solution and design. An attention should be paid to the fact that in the result of the correct administering, the Lotus Domino Server provides an excellent protection of the information.

Introduction

Before the year of 2001 there was only one informational inquiry system working in Armenia, which provided information about the existing medicines in Armenia and their prices. That inquiry system worked on MS-DOS operating system and was updated once or twice a month. The updating was implemented through floppy discs. "PHARMINFO" is created to work on the operating systems Windows 95/98/NT/2000. Lotus Domino R5 was chosen as database, the peculiarities of which will be observed in the next section. The Server operates on the Windows NT4 Server operating system. The user's part works with Windows 95 or higher operating system. The minimum requirements are Pentium 133 MHz, 32 MB RAM, and 200-MB free hard disc space.

During the creating of the "PHARMINFO" network we have done the following.
1. Designing the hierarchy of the network.
2. Designing the database system, which will work in the network.
3. Releasing the database with the Lotus Formula and Lotus Script languages.
4. Installing and administering the Lotus Domino R5 Server.
5. Registering the users and giving them access to databases.
6. Installing and configuring the workstations.
7. Ensuring of the network and the database from unauthorized users and actions.

"PHARMINFO" provides information about all medicines and products registered in Armenia, about their prices, producers and sellers. The given information may be presented in the following subdivisions:

• General price list including the name, wholesales and retail prices, expiry date, seller, producer and country of origin for each product.

- The above mentioned price list grouped by sellers or by product names.
- List of products including the name of the product, group and other information.
- List of sellers including data about the seller (name, address, telephone number, e-mail address, etc) and information about the discounts given by the seller.

The system gives an opportunity to put orders and e-communicate with the Server or with each other users of network. "PHARMINFO" users can update the information at any time. The system operates in Russian.

The features of the system

"PHARMINFO" has been created on the basis of Lotus Domino database. Replication of data is one of the main advantages of Lotus. The replication is implementing in the form field level. If the user makes any change in a record, during the process of the replication system will send to the Server only the updated field value, in the result of which the traffic of data will be small. The "PHARMINFO" database can be connected to any relational database system using NOTES SQL ODBC driver. If the user has the price list in any database format, he can create a small application to updates his Lotus price list automatically. We can use two network security levels. First, when the user connects to the Server as a Windows NT registered user, using RAS service, after that as a Notes user. In this case the identification of the user is implemented twice. Second, when the user chooses the Notes Direct Dial service and connects directly to Notes Server without Windows NT user identification.

The database application operates in Russian. On the workstations the users need to install the Russian Language support, because the default language of the application is set to "Ms Sans Serif" to avoid any incompatibilities with non-standard fonts.

For the database security we made the database so, that every user can edit only his documents. The document maker is marked on each record as an author. The aim is that in the result of any mistake the user can damage the other's information. While creating the database we put the "Author" type fields on the forms. After that we made the ACL (Access Control List) and give to the registered users the "Author" level access. It means that the user can create and read the documents of the database, but can edit only the records "Author" type field values are equal to the name in the user's USER.ID file.

The user of Lotus Notes may use the e-mail included in the program, which works only between "PHARMINFO" users. There is only one Server connected to "PHARMINFO". The users connect to the Server through modem, using telephone lines. The connection is important only in case of replication and e-mail usage. The replica of database is located at the user's computer and he, locally, without any physical connection to the Server may use the whole information provided by "PHARMINFO". The operating system of the Server is Windows NT4 Server, on the basis of which Lotus Domino Server R5 works.

Working with the system

While activating the "PHARMINFO" system the main window is opened. (Fig. 1).

From the upper frame of the window the section of the system may be selected and in the result of clicking the information of the selected section will be opened.

In the middle part of the window the search bar is located, which concerns only to the lower table. The search bar is located in each corresponding table. In the lower section of the

main window the general price list is located, the information reflected there is mentioned in the part "INTRODUCTION". Three actions are available from this window.

      1. Add a new preparation

      2. Refresh the Price List

      3. Compose a letter

Fig. 1 The "Pharminfo" main window.

In the result of clicking on the 2nd button the window of replication must be opened. The user must only wait for the end of information updating and then close the window. When the user decides to make the replication process automatically, he makes a schedule where the days and the times are indicated. After the background replication is implemented, the user does not need to stop his work for waiting the end of the replication.

In the result of clicking on the 3rd button the e-mail window is opened. The e-mail is available only between the "PHARMINFO" users. After being registered as a user of the system an e-mail account is opened and an address is given, which is registered at the Lotus "Names and Address Book".

Through the e-mail the users may send messages, files as well as receive replies from the addressee after he receives and opens the information. Most of the attached files (e.g. Word, Excel) within the Notes mail can be viewed without any special software.

As we see the information in Lotus Notes can be viewed with "views". The "views" can be compared with the tables with column headers. We can add or remove any column from the "views". But the main advantages of the Notes "views" are that we can create categorized "views" and the users can open and close only the needed category of the documents.

The refreshed and new appeared lines are marked with red color, which makes it easy to follow the information.

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Տեղեկատվական դեղագործական ցանցի ստեղծումը

Գ. Ա. Ծիռունյան

Ամփոփում

«Ֆարմինֆո» դեղատոնային ցանցը Հայաստանում առաջին ինֆորմացիոն հաշվարային ցանցն է, որը Հայաստանի շուկայում սպառվող դեղատոնային ապրանքների վերաբերվող հաշվարային տվյալների շտեմարան է: Այն ստեղծված է Lotus Domino/Notes R5 ծրագրաղրի հիման վրա: Որպես շտեմարանի սերվեր ընտրված է Lotus Domino R5-ը: Այն վերջին ինտերնետային տեխնոլոգիաներով հագեցված փաստաթղթային ուղղվածության տվյալների շտեմարան է: Համակարգի ստեղծման ընթացքում հիմնական դժվարությունը եղել է ստեղծել կլիենտ/սերվեր տեխնոլոգիային համապատասխանող ռււսալեզու, պաշտպանված տվյալների շտեմարան: Նպատակը եղել է կամայական օգտագործողի թույլատրել խմբագրելու միայն իր կողմից ստեղծված փաստաթղթերը: Շտեմարանների լոկալ օրինակները տվյալները պետք է համնխայ և ավտոմատ կերպով թարմացվեն սերվերում տեղակայված գլխավոր շտեմարանից և հակառակը:

Նշված համակարգը այժմ է ընկնում տեխնիկական լուծման հնարամտության և իր օգտագործման միջավայրի գեղեցկությամբ ու մատչելիությամբ: Դեռդ է ըկատել, որ Lotus Domino R5 սերվերը ֆիշտ կազմակերպման և օգտագործման դեպքում գերազանցից կերպով իրականցնում է տվյալների հռսքի պաշտպանվածությունը: