



3Nexus Drug Information Medical System Case Study

Your Results.
Our Commitment.



Originally the client needed some guidance in improving their medical advice process, patient data management, medical news updates, etc. The major challenge was to create a unique system, which included the functionality of various medical systems. The goal was to increase the efficiency and reduce the possibility of overloading the end user with the scope of the system functionality.

A new system must be easy to use for both patients and doctors. That would maximize the efficiency of each module usage, and minimize the time spent by the user to obtain the necessary information.

The Drug Information Medical System (DIMS) was developed. With a team of 2 developers and the development cycle of incomplete 12 months, a successful delivery of the first version of DIMS was an ambitious goal. The software enables the client to provide medical advice for patients, store drug information, share medical info using international pharmaceutical standards. New system users (e.g. doctors, patients, consultants, pharmacists, medical documentation writers, etc.) work separately while sharing valuable information to support medical analysis.

Industry	Healthcare
Solution	Remote Consulting System
Services Used	Custom Software Development
Technologies	Programming Languages: C# Net Technologies: Client-Server Database Server: MS SQL 2005 Application Server: IIS
Engagement Model	Fixed Price for Iteration
Efforts	80 man-months

Key Features:

- ◆ **Patient module** allows the patient to view his medical history and to find information in the knowledge base
- ◆ **Medical Advice module** allows medical staff to manage patient's data and to provide medical advice according to patient's records.
- ◆ **Paper Creation module** creates medical papers for publishing (in compliance with medical paper design standards)
- ◆ **Content Management module** contains two databases with medical info and allows importing data from a file or an external database
- ◆ **Web Crawling module** allows scheduled Internet crawling (with either Google API or RSS) for keywords and storing the acquired information
- ◆ **Pharmacy module** allows pharmacy staff to manage patient's data (e.g. prescribed medicines) and collaborate with Geriatric Homes. Moreover, the module contains the functionality for working with "Baxter" Unit Dose machine
- ◆ **Offline tool** allows pharmacy workers to manage patients offline and synchronize the changes with the main server. It allows doctors and technicians to work when internet access is not available or when the hosting server is down.

www.3Nexus.com



Solutions:

To achieve our client's objectives, we analyzed how similar systems, databases and sites operate. Together with the client, we identify all stakeholders, and international standards and compliance. Then the 3Nexus design team created a unique system design that does not puzzle the end user but provides an easy and clear navigation.

We identified data center capacity, security, process, resource requirements, and issues related to medical system creation and elaborated an effective development strategy based on creating a unique medical model in close co-operation with the medical staff at early stages of the system design. We evaluated the web application from the end user's point of view (e.g. doctor, patient, consultant, etc.) and created a system following the studies.

Customer Benefits:

After its implementation, DIMS beta testing was a complete success. 3Nexus team was greatly appreciated by the client. The implementation has generated a lot of new ideas about some additional features. The client arranged several meetings to discuss further system enhancements.

The successful implementation of the product attracted attention of other companies in the industry. For instance, a pharmacy CEO was interested in DIMS. After negotiating the conditions with the client, he joined the system development with a goal to adapt DIMS for the pharmacy workflow that will be integrated with Unit Dose machine "Baxter" and Geriatric Homes data. The adapted version was released and is now being tested by the pharmacy staff.

One of the major benefits of the application is that it reduced the time spent on the browsing of medical websites. Automated search can be conducted by specified keywords, with an ability to export search results into the consulting system.

3Nexus' flexible working scheme allowed the client to make changes in the system during the development and to monitor the system creation process.

Our expertise in healthcare industry helped us provide this type of service in an efficient manner, resulting tremendous benefits for our clients.

Screenshots:

My account | Medical advice | Pharmacy | Scientific works | Content management | Web crawling | Setup MSP's content manager & admin English

Drug Information Center

Search for...

- 📄 Over leaflets
- 📄 My therapy
- 📄 Personal health record
- 📄 Subscriptions
- 📄 Health notes
- 📄 Current ICD-10 subscriptions
- 📄 Cured ICD-10 subscriptions
- 📄 Archives
- 📄 News archives
- 📄 My requests
- 📄 My requests

Welcome to DIMS, MSP's content manager & admin

System Administrator

Manage users
SIS import

System statistics

Patient	29
Nurse	4
Consultant	6
Doctor	16
System Administrator	10
Pharmacist	18
Content Manager	9
Author	5
Translator	5

Total users : 74

Object name	Quantity of existing objects	Quantity of deleted objects
Therapy	18	2
Drug	43848	3
Drug ingredient	24067	1
Interacting agents/groups	597	1
Clinical trials	17	2
Health problems	15334	3
Scientific article	18	3
Health news	16	5
Nutrients	14	3
Diet documents	66	1
Therapeutic classes	15953	0

Database size: 11191.06 MB

Content Manager

There are 4 'Remind me' task(s) that should be closed.

Copyright ©2005 Drug Information Center. All rights reserved.

My account | Medical advice | Scientific works | Content management | Web crawling | Setup Admin

Drug Information Center

Admin control

- 📄 Users
- 📄 Roles

Content management

- 📄 Import filters
- 📄 SIS data import
- 📄 Icd-10 data import

Medical advice

- 📄 Report templates
- 📄 Patient info items

Scientific works

- 📄 Compilation profiles

Lookups

- 📄 News & article categories
- 📄 Therapeutic classes
- 📄 Search exceptional words
- 📄 Route of administration
- 📄 Drug formulations
- 📄 Administration-formulation
- 📄 Units
- 📄 Abbreviations
- 📄 Allergy-ingredient interactions

Patient info items

<input checked="" type="checkbox"/>	Entity name	Item type	Item name
<input type="checkbox"/>	📄 Allergy	Text	allergy_text1
<input type="checkbox"/>	📄 Allergy	Number	Allergy_number1
<input type="checkbox"/>	📄 Allergy	Without value	allergy_without
<input type="checkbox"/>	📄 Allergy	Without value	yti_without value
<input type="checkbox"/>	📄 Laboratory data	Number	new number
<input type="checkbox"/>	📄 Laboratory data	Without value	labdata_novalue
<input type="checkbox"/>	📄 Laboratory data	Date	labdata_date
<input type="checkbox"/>	📄 Laboratory data	Text	new text
<input type="checkbox"/>	📄 Laboratory data	Text	labdata_text1
<input type="checkbox"/>	📄 Laboratory data	Number	labdata_number
<input type="checkbox"/>	📄 Physical examination	Text	physical_ex_text
<input type="checkbox"/>	📄 Physical examination	Number	physical_ex_number

Key Advantages:

- ◆ Functionality and high productivity of the DIMS and its superiority over the legacy system.
- ◆ User-friendly GUI
- ◆ Meeting an aggressive release deadline on time and on budget
- ◆ Ability to maintain development and testing schedules
- ◆ Increased client satisfaction
- ◆ Quick adoption of the new system by the company staff members together with beta-testers (doctors from other companies) without much training
- ◆ Accurate, reliable and trustworthy system

Technical Overview:

DIMS application is a web-based .Net application that uses two database types: MS SQL and dBase IV. It also has an ability to import data from other databases (e.g. MySQL, Oracle). The application runs under Windows 2003 Server with Internet Information Services 6.0.

Technologies:

Programming Technologies: Microsoft ASP.NET 1.1 platform

Programming Languages: C#, JavaScript, HTML, SQL

Project Management Tools & Technologies: Microsoft Project, IBM Rational Clear Case IBM Rational Clear Quest

Efforts:

80 man-months



3Nexus Headquarters

- Address 3Nexus LLC
6701 Democracy Blvd, Suite 300
Bethesda, MD 20817
- Phone 1 877 236 3987 (1 877 23nexus)
- Fax 1 866 436 3987 (1 866 43nexus)
- Email info@3nexus.com
- Website <http://www.3nexus.com>

Terms of use

The general terms 3Nexus products, programs, services or features discussed in all 3Nexus brochures, profiles, or showcases on 3Nexus website are offered, performed, and provided by 3Nexus LLC, its subsidiary, or partners. The client list contains clients of 3Nexus LLC, its subsidiary, and partners. Additional terms of use of this document are located on <http://3nexus.com/termsofuse.php>.