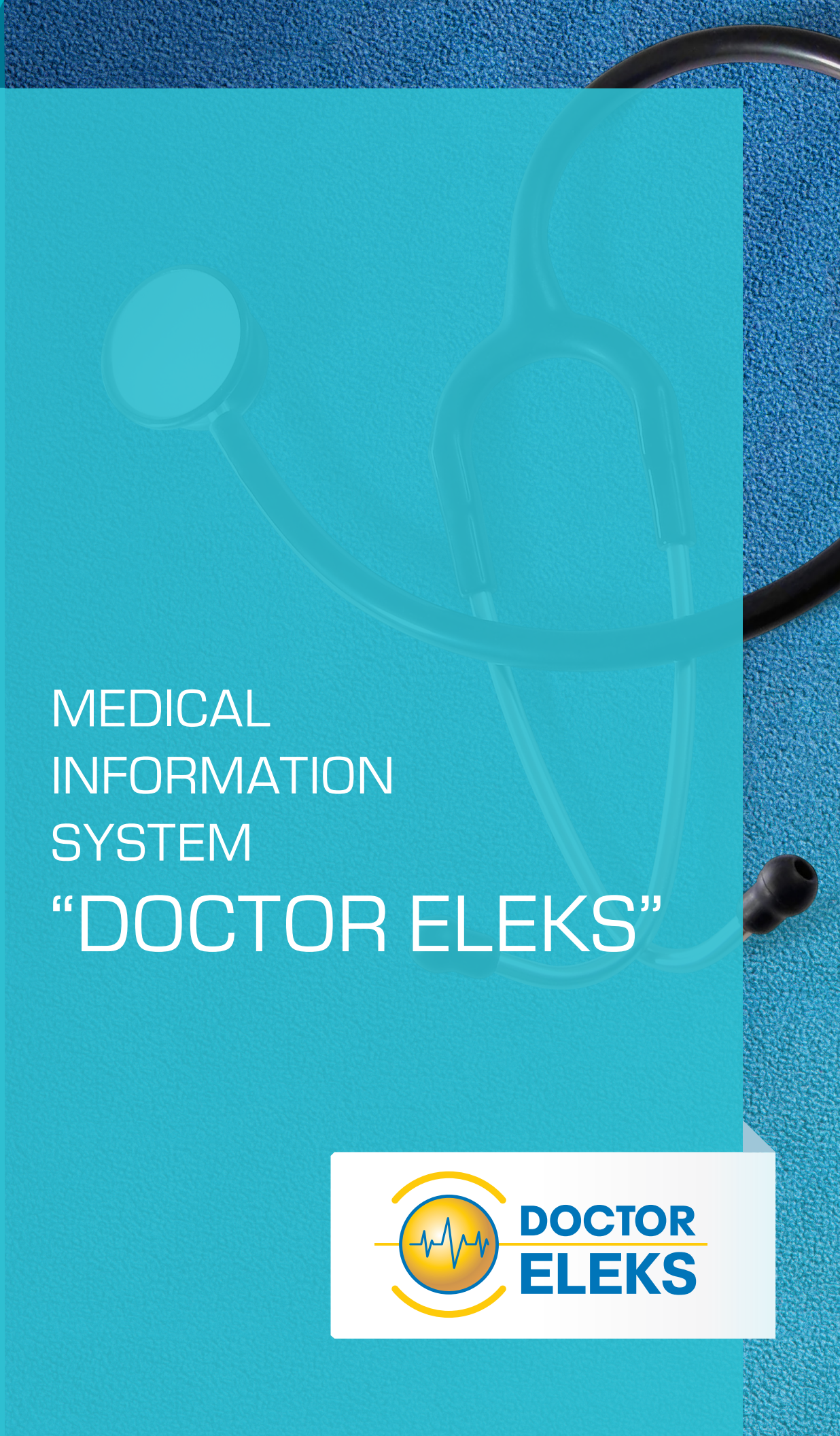
eleks® SOFTWARE DEVELOPMENT



MEDICAL INFORMATION SYSTEM “DOCTOR ELEKS”

DOCTOR ELEKS

A Unique Medical Information System “Doctor Eleks”

By providing effective medical data management and accurate patient processing, ELEKS’ own product, “Doctor Eleks”, increases clinic work efficiency, improves working conditions and quality of medical services.

Working closely with international medical institutions, ELEKS developed a medical information system intended to help clinics collect and store all patient information, including video and graphic images from diagnostic equipment, in a single electronic medical record. The system includes more than 20 subsystems allowing to edit document templates, maintain appointment schedules, analyze clinic’s activities and statistical data, integrate with various medical devices and process images. A sophisticated medical information solution successfully works in different medical clinics in Ukraine, Moldova and Poland.

Customer

ELEKS’ own product

Industry

Healthcare

Challenge

Automate all steps of medical laboratory diagnostics: from data collection and processing to test results analysis and business process management.

Business Benefits

- efficient, accurate data management;
- increase of clinic work efficiency;
- working conditions improvement;
- upgrading the medical services quality;
- increase of patient processing and workflow;
- imp rovement of patient care quality.

Technologies

MSSQL 2005, IIS/Web Service (SOAP), Win32 client (.NET Framework 2.0), Web client (ASP.NET 2.0)

Standards:

HL7 v2.4-2.6, DICOM

Communication Protocols:

LIS2A / ASTM E1381-02 (RS232)

Solution Overview

Our innovative solution utilizes modern architectures taking into consideration international standards and principles of interoperability. “Doctor Eleks” was created using C# language, Microsoft® .NET 2.0 platform and HTTP information exchange protocol. The product is localized to English, Spanish, Russian, Romanian, Ukrainian, and Polish. Its multilingual capabilities and Internet access make it a valuable contribution to international e-Health effort.

Electronic Medical Record

The core element of the system is an Electronic Medical Record that contains all the patient data, including personal information, medical examination results, laboratory tests, and different medical images (X-ray, ultrasound, etc.).

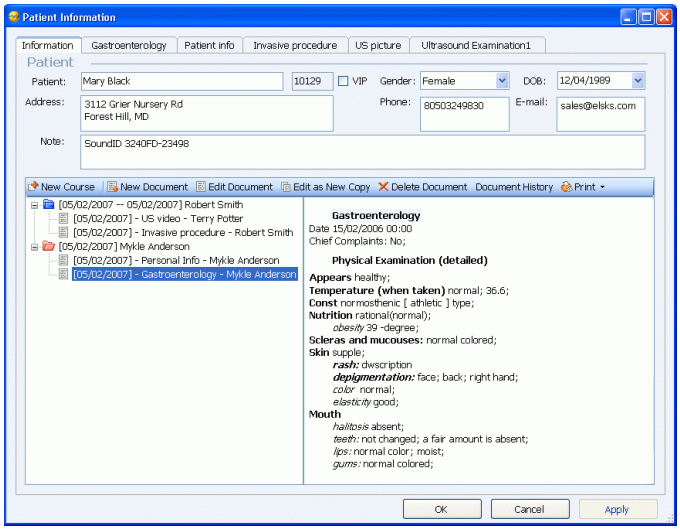
A unique “Tree View Templates” technology decreases the risk of medical errors in documentation while inserting the patient’s examination data. Electronic Medical Record patient data storage provides quick search and retrieval of the patient’s information.

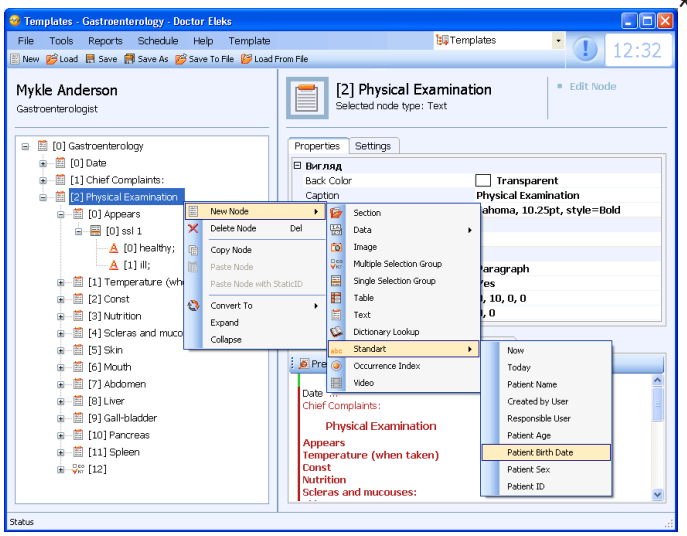
Clinic Activity Analysis

The main purpose of the Clinic Activity Analysis solution is to increase clinic’s work efficiency, improve working conditions, and upgrade the quality of medical services. Subsystem users are provided with analytical data and statistics on staff workload; requested and provided medical service, work efficiency, etc.

Document Template Editor

The system simplifies document creation and formatting using built-in document template editor, ensures that all the requirements to document content and layout are met. Intuitive interface and “Tree View Templates” technology allow physicians to promptly and easily create documents and insert the data. An innovative tree view technology of document templates makes it easy to use and customize it even by inexperienced users.





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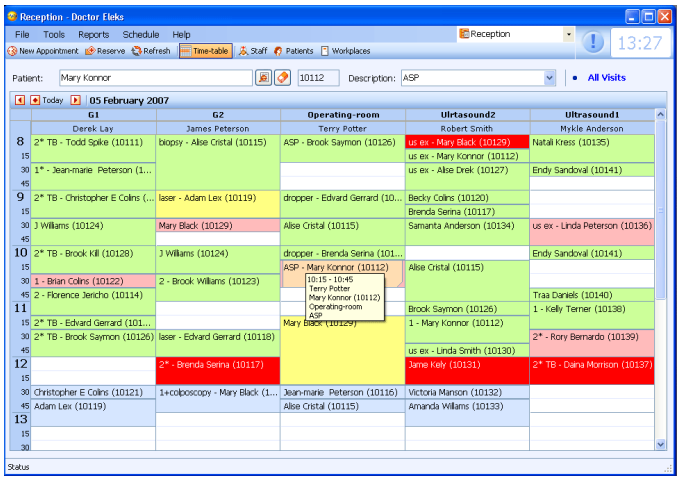
Medical Devices Integration

An integration module provides facilities for integration with different types of medical devices:

- Ultrasound imaging systems
- X-ray devices
- MRT and KT scans
- Endoscopes
- ECG systems
- Electroencephalographs



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Appointment Scheduling

Developed scheduling subsystem allows to carry out individual workday planning, take into consideration physicians' and patients' wishes, display schedules in a daily, weekly or monthly layout.

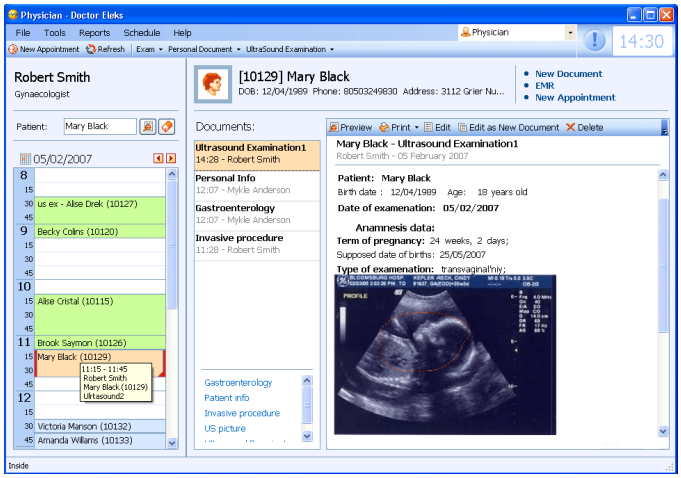
Medical Finance and Insurance

The system is capable of managing patients' balance within different accounts (commercial, medical insurance plans) and tariff plans (discount plans for different accounts). Real-time interactive communications module Chiba© allows to report to insurance companies or counteragents and securely receive insurance companies' approvals via internet or leased line.

Video and Image Processing

The Video/Image editor enables images and video processing, records review, descriptions and key frames adding. In order to improve informational value of medical documentation system allows to include images to the documents. Upon request patients can be provided with a video record of their medical examination.

Proper development of IT systems in healthcare is only possible through intensive cooperation. The collaboration and practice sharing with our partners and customers in Ukraine, Moldova, Poland, Russia results in constant upgrading and improvement of existed functionalities. Committed to product innovation and high services quality, Doctor Eleks R&D team works on the future products in order to keep pace with modern technology advances.



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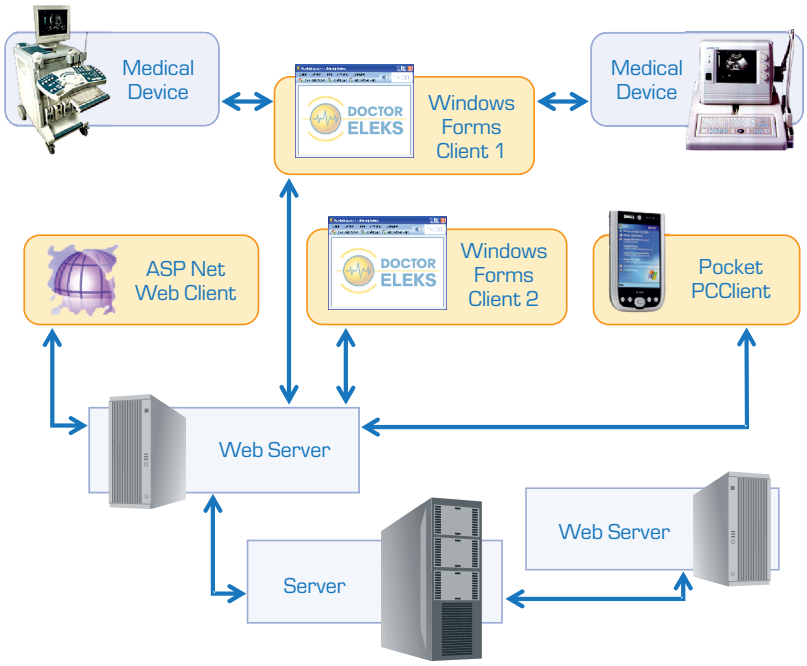
Scope of Services



- Market research
- Initial product design
- Software architecture and full development cycle
- QA and testing
- Technical, marketing and user documentation
- Implementation and ongoing system support

Future Steps

- Additional technical and functional upgrade of the system

Tool's Advantages

- **Usability.** The system is simple, requires no special software training, contains intuitive graphical interface for inexperienced users.
- **Minimizing medical errors.** Decrease the risk of medical errors in documentation. Keeping to the recommended sequence of the physician examination.
- **Time Effectiveness.** Quick search and retrieval of the patient's information. Unique document workflow for charting, which drives the examination process.
- **Customization.** Fast and easy data input using built-in document template editor. Quick lab data input using Laboratory workflow.
- **Security.** High level of document and patient level security, role-based security.
- **Monitoring and Control.** Visual highlighting data visually in case of abnormity.
- **Interoperability.** Interoperation with medical devices. Images and video processing.
- **Flexibility.** The use of a standard data transmission protocol between client and server enables easy creation of client sides for other environments.
- **Multi language** presentation layers. Localized to English, Spanish, Russian, Romanian, Ukrainian, Polish.
- **Reporting, Planning and Analysis.**

Customer Reference

"Doctor Eleks is not the first information system used in our hospital. But after evaluating "Doctor Eleks" we decided to install this system in all the in-patient departments, because "Doctor Eleks" covers all the key areas of the hospital's work like reception, doctor's workplace, laboratory, diagnostics, medical reporting and hospital management.
This solution uses centralized data storage, and this feature saves much of working time for our staff.

And since most of the documents are stored in electronic form, there's no need to keep their paper copies. Taking into consideration the size of the hospital this is a very essential point".

Igor Semeniv,
Chief Medical Officer of the Ivano- Frankivsk Regional Hospital, Ukraine

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