Medical Informatics for Recent Graduated Physicians Doing their Social Service

César Colina-Ramírez[a], Ramón Boom-Anglada[a], Martín de Jesús Jiménez[a], Antonio Cerritos[a], Otto Rienhoff [b], Marcelo Sosa[c] and Nora Oliveri[d] .

[a]*Mexican National Autonomous University (UNAM), Ciudad Universitaria, Tlalpan México 04510 D.F.*
[b]*Division Medical Informatics Georg-August University, Germany*
[c]*Escuela Nacional de Sanidad, Madrid España,*
[d]*Fundación de Informática Médica, Buenos Aires Argentina*

Organized by the School of Medicine of the Mexican National Autonomous University (UNAM), and supported by the government, this program, facilitates the meeting of ninety six recent graduated physicians doing their social service in rural centers: 59 (in Sonora-Northern state) and 37 (in Tabasco-Southern state) of Mexico, by Internet and electronic mail, and specialists working in hospitals of the capital of these states, or in Mexico City. The doctors in the rural areas have access to medical banks of information and also have the opportunity to interchange opinions with a group of specialists.

Besides Medicine, several other areas of knowledge (informatics, telecommunication) intervene in order to fulfill the requirements of this program. The recent graduated physicians, doing their Social Service in Sonora and Tabasco have now access through a computer (modem) to the library of the School of Medicine and to Medline material. Also have permanent communication by electronic mail with other physicians working at the National Institutes and expert systems in the web. Another support is given by teleconsultation with the Castro Villagrana health center in Mexico City.

Image-Based Access to Clinical Data and Medical Knowledge in a High-Speed Intranet with Knowledge-Based System Control

Clemens Chizzali-Bonfadin, Klaus-Peter Adlassnig, Christian Schuh, Karl Boegl, Guenter Kolousek

Department of Medical Computer Sciences, University of Vienna, Vienna, Austria.

A "Medical Super Workstation" integrating all information and images on a high-end supercomputer was one of the dreams we often heard about in the last decade. The physician would have to move to the location of that machine. Today high-speed networks, fast personal computers and low-end workstations at relatively low cost change this picture. Physicians don't have time to go to a specialized single workstation, they need to get all required information at their actual working place using their multipurpose personal computer or workstation and a web browser which they are familiar with. They need "information at their fingertips".

This system is designed as multimedia computer system with extensive use of telecommunication means and knowledge-based system control. Starting point is the 3-D visualization of a patient's medical images. Various kinds of extensions are introduced to the virtual 3-D patient, which are, on the one hand, transfer of medical data of that patient. The range of data types runs from patient history, biochemical and clinical data, and biosignals to additional medical images (ultrasound, endoscopy, etc.), as well as navigation data for surgery. On the other hand, aggregation and interpretation of the patient's data is enabled by use of knowledge-based and expert system components. To decrease the resulting excess of information, one of the core elements of the project is knowledge-based filtering of medical data and knowledge-based control of the system.

The user interface and communication between single modules are realized with Internet and World Wide Web technologies by use of "component based software" methods.