

RECPHONE : A New Environment for Medical Remote Expert Consultation.

by

Basiroglou P.¹, Bouras C.¹, Garofalakis J.¹, Papoutsopoulos G.¹, and Spirakis P.^{1, 2}

1. Computer Technology Institute, Patras, Greece*
2. Courant Institute of Mathematical Sciences, U.S.A.

ABSTRACT

RECPHONE (Remote Expert Consultation PHONE) [1], is a programming environment under development at the Dept. of Computer Science, University of Patras, for the project TELEMED/RACE.

The main goal of RECPHONE is to support the communication among physicians, located in different hospitals in Europe, connected via a TELEMED Wide Area Network (WAN).

The implementation of RECPHONE is focusing on the ability to exchange digital images and information for remote expert consultation and on medical technology transfer. It is implemented on MACINTOSH workstations and is aiming also to perform as the main user interface of the physician, for all local image manipulation and text processing requirements.

RECPHONE's functions can be divided into two major categories : Local Processing and Communication.

- Local Processing deals with the construction of files to be sent over the WAN. The files may contain images and/or text. The PAPYRUS format [2] (based on the ACR-NEMA standard [3]) is used for the images and the PAPYRUS Toolkit [4], for reading and writing PAPYRUS files.

This work is part of the
TELEMED/RACE project
No. R1086

| * Computer Technology Institute
| P.O.Box 1122
| 26110 Patras GREECE
| Phone (++30 61) 997578
| FAX (++30 61) 991909

- The Communication functions are responsible for establishing and maintaining the communication between two physicians. Two communication modes will be available : Batch and Interactive. In the batch mode, a POPYRUS file is sent through the WAN, while the interactive mode initiates two windows on both workstations, for a conversation between the two physicians. During this conversation, POPYRUS files may be sent in both directions. An address directory will be available to all workstations connected to the TELEMED WAN. ETHERNET, TCP/IP (especially MacTCP) will be used for connection. FTP and SMTP applications are under development for the specific needs of the two communication modes.

RECPHONE is constructed in a user friendly manner, using all the capabilities of the Macintosh environment (windows, pull-down menus, scroll bars etc.).

REFERENCES :

- [1] C. BOURAS, J. GAROFALAKIS, P. SPIRAKIS, O. PATIB :
" *Specifications for the Remote Expert Consultation Application on Macintosh* ", TR. 90.07.19, CTI Patras, 1990.
- [2] O. RATIB : " *POPYRUS Image File Format, version 2.3* ", HCUG, Geneva, 1991
- [3] ACR-NEMA : " *Digital Imaging and Communications. ACR-NEMA publication no. 300* ", Washington D.C., 1985
- [4] O. RATIB : " *POPYRUS Toolkit, User Manual, version 1.0* ", HCUG, Geneva, 1990