# Web 기반 원격 맥진 시스템 구축에 관한 연구

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# A Study on the Web-based Remote Pulse Diagnosis System

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## Abstract

This study has conducted researches in the web-based diagnosis data management system of pulse waveform as well as the method of transmitting the data of pulse waveform. In order to set the standard for the documents of the pulse waveform of patients, the web-based clinical database management system has been developed.

## Introduction

The recent progress in the medical informatics enables us to obtain medical information at any time or in any place and to make a diagnostic and therapeutic plan to meet the publics growing demand for healthier life. Medical college and general hospital sites are now providing the service on medical information as well as counseling with their medical doctors on the Internet, paving the way for the hospitals to make themselves better known. It is true that, as of now, many medical fields, including the oriental medicine, need to undergo the work of scientific standardization and objectification all the more. Still more, it is impossible to analyze all innumerous clinical data only with the development of medical equipment. Accordingly, this study is aimed at developing a remote database management system.

## Clinical Database Management System

The web-based database management system has been set up with a view to easily collect the data of a patient even in a remote hospital and to have the data transmitted to the database management system placed in the center. If a hospital in a remote place is linked with the Internet, the data of a patient can be delivered to the remote server by simply linking its personal computer using the TCP/IP protocol with the digital pulse diagnosis system and by operating the data acquisition program and the web browser.
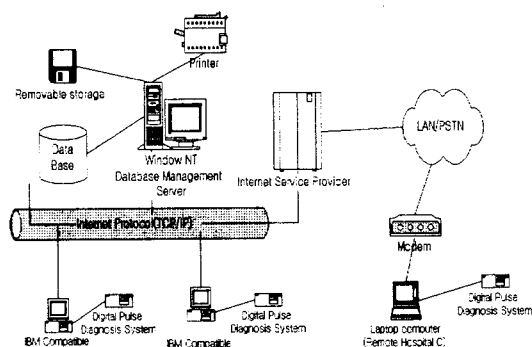


Fig. 1    Structure of    the Clinical Pulse Database System

If necessary, a doctors written diagnosis can also be handed over to the server along with the data of a patient. Furthermore, even if a remote hospital is not linked with the Internet, it can get access to the Internet through the ISP by using the PSTN, finally linking to a remote server. Since the PPP/SLIP protocol is used in this case, the data is transmitted to the remote server in the same way the Internet does.

Once the server receives the data of a

patient or the clinical doctors written diagnosis from a remote hospital, it stores them by using relational database SQL for the systematic management and carries out analysis work. In addition to its job of collecting the data of patients, the server in the center is also responsible for providing statistical documents on a certain disease or diagnosis standards to a remote hospital. The result can be transmitted to the remote hospital in HTML documents, Java script, or ASP.



Fig. 2. Log-in screen



Fig. 3 Window for Registering the Result of Pulse Diagnosis

## Discussion

In order to set the standard for the documents of the pulse waveform of patients, the web-based clinical database management system has been developed. The pulse wave signal of a patient has been measured at a clinical hospital, and the clinical information of pulse waveform as well as the documents on

disease and diagnosis have been transmitted. In doing so, the study has continued to collect the data on the pulse waveform of patients. In this sense, the ultimate goals of this study are setting the clear standard for clinical interpretation by comparing and analyzing the clinical result of a doctor and the diagnosis result provided by the database of pulse waveform; managing the diagnosis standard and checkup by doctors synthetically; improving the automatic diagnosis program of the digital pulse diagnosis system; and developing the standardized clinical database of pulse waveform.
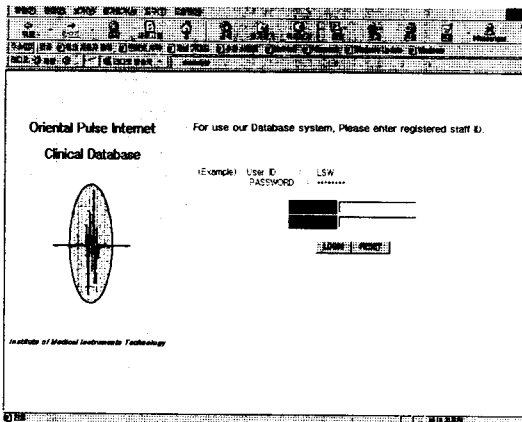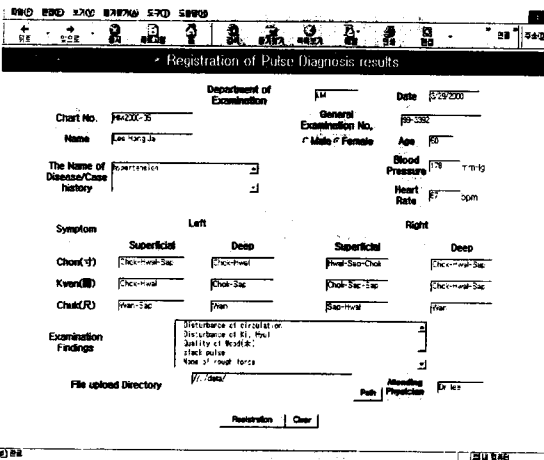
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