

무선이동환경에서 m-PACS 재활지원 서비스를 위한 클라이언트-서버 연동시스템의 실증적연구

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Positive Research of Client-Server Interlock System for m-PACS Rehabilitated Service in Wireless Mobile Environment

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Abstract -J2ME service technology has advantage that can embody independent and, more soft system in DICOM 3.0 and medicine reflex administration server, client's OS that is medical treatment reflex standard in radio Internet. Also, intranet that do web basedspread, and develop by system that can alternate existent client-server structure rapidly. Specially, possibility of improvement is much because is connecting being limited in internet environment that medical equipment and information system of various kinds of machine are wire in medical institution and so on. Because do medical treatment reflex transmission module development applying DICOM technology and filtering techniques of "m-PACS Rehabilitated " in this research, existence, by interlock in radio usable Mobile reflex conversion system design and embody. That is, patient's information which is stored to various systems to be transmitted and can give big help in medical examination and treatment to reflex client without being wooded doctor's interpretation result and so on in place through environment to be radish tentacle bar see

thatwant regardless of place, and bring customer security and effect of profitability enlargement to service and net businessman by offering various contents to user. It is security and convenience that become most focus by spread of wireless internet service. Specially, medical treatment service field must provide new medical treatment reflex service and give authoritativeness to user to thorough Security. Wireless medical treatment service that do based on radio internet to offer in existent off-line difficult mobility and convenience, and there is possible various kinds advantage with position base service offer that happen hereafter. With this, must consider, efficiency, extensity, trustability, security mutually as requirement of wireless internet service. PACS that is called next generation medical treatment system stores changing X-RAY, MRI (Magnetic Resonance Imaging), reflex data that get through medical treatment reflex diagnosis reflex diagnosis equipment such as CT (Computer Tomography) to digital signal, and do to transmit reflex data by real time through network of high speed to a necessary doctor and diagnose.[2],[6]

PACS that can prevent loss and breakdown that existent film system is problem that have supplementing HIS's function that is based oncharacter information can store patients' film systematically and keep, and teleconsultation procedure very simplification because get worn out in case of advanced nation major hospitals since the 80s operate . Bit map (bitmap) way and vector (vector) image way according to data type that wireless medical treatment reflex transmission service offers of dichotomise . Bit map way is method to be called and create image from medical treatment reflex database in server is raster method or transmit image of question area by client just as it is from database is Uiryomi.

Vector method transmits image data just as it is by client in server and create image in client.

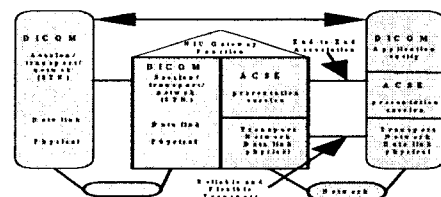
1. 서 론

As Internet is generalized, Wireless Internet that is represented by portability and mobility is generalized, and these substance becomes various.. However, WLL service or radio data service that use IS 95 standards had existed past and fixed wireless local area network in mobility side, is divided by available transfer style radio data service outside the room. Wireless internet invented depend in demand that require information retrieval, E-Mail send-recvie, ticket advance purchase etc.. While consumer plain moves, but take 21th century and two shafts of Information-Communication technology are internet and radio communication. [1],[5]

Wirelessinternet invented depend in demand that require information retrieval, E-Mail send-recvie, ticket advance purchase etc. while consumer plain moves, but take 21th purchase etc. while consumer plain moves, but take 21th century and two shafts of Information-Communication technology are internet and radio communication. Wireless internet offers convenience with service that can use net through radio terminal to concept that unite immediacy and potable telephone of internet and mobility of personal information terminal (PDA) or do electronic commercial transaction. But, there is difficult point that is many to serve connection through radio terminalsummer period and carrying along page, size, monitor sole leather, everybody such as Batderi supply existent wire internet

Also, radio internet service reduces refusal persimmon about utilization by user offering environment that can receive service

2. 본 론

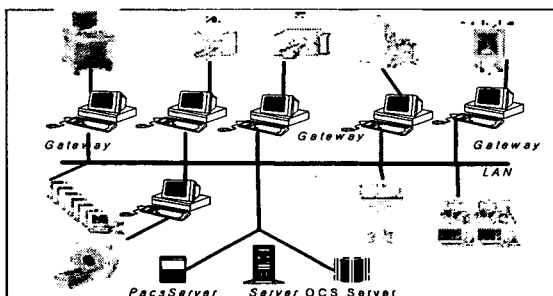


<Fig.1> Dicom protocol

Implementation of medical treatment reflex transmission service can divide to WAP bedrock and JAVA bedrock. Lately, transfer is jumpy by JAVA base service such as database interlock that use animation processing, RMI, breakup object that use CORBA, servlet

or development that use JSP, JDBC including component. Hospital business is quick and because storage way, communication method of developed existent PACS and Teleradiology equipments differs more than most standard rules to process efficiently, interlock was very difficult. But, can do exchange of information and processing efficiency greatest Tuesday using standard way in all fields present. Java technology capacitates standardization of medical treatment picture that exist in various format having platform independent special quality, and database for medicine picture of sea as well as various through existence and nonexistence internet has possible advantage. To operate DICOM that is standard of medical treatment reflex taking advantage of Java technology in use, Mobile field including hand phone, operation system independence system (WINDOW, MAC, UNIX, LINUX etc.), most takes into account Irujim in server, do to act called Java application program that is MIDlet in hand phone of MIDP base and embodied in WAP base. Did image processing according to information of relevant tag comparing DICOM module table that embody Java base OS independence reflex expression technology DICOM's header information in Java lifting Ikee and observation of Invert, brightness control, contrast, emboss, spiral, blur, sharpen, noise rejection, flip vertical/horizontal, rotate, move Deungeuro GIF, JPEG, reflex format liver conversion of BMP and so on, interest area setting, statistical analysis, time - radioactivity curved line etc. of image processing techniques that use and realize JAAV 2D technology is easy point. AWT & did so that may can create GUI (graphic user interface) according to relevant platform in Java program taking advantage of SWING technology, and offer superior graphic function as box so that can do graphic work directly on screen in all screen API (full-screen exclusive mode application programming interface). Supporting including Ipv6 coming Networking support J2ME Handheld Device that increase is linked to network that itself is like because I come PDA, Screen phone, Set-top Box, net TV and go up VM Lee who VM itself is light more than general JVM.

Also, go up Core API A over. Java VM course Core API part coming CDC CLDC la to part be divided. Because CDC comes ScreenPhone, Set-top Box, net TV by Connected Device Configuration relationship abbreviation, it is same Device relationship Configuration.



<Fig.2> Whole flowchart

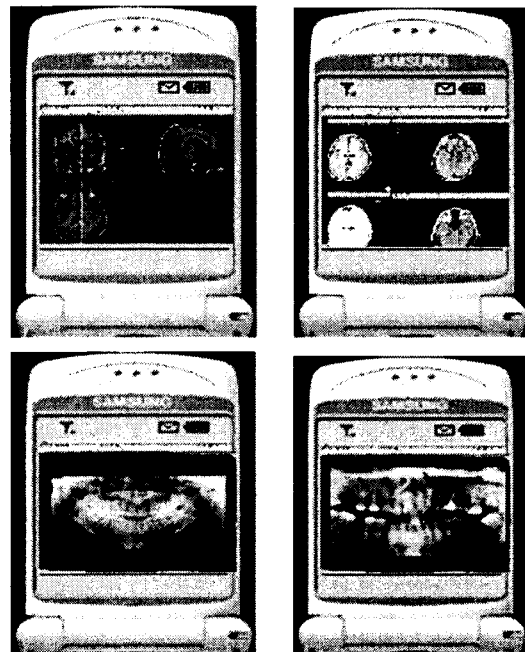
System PACS can refer medical treatment premier of mass digital High Resolution through computer and network does server, network, storage chapter, there is terminal, monitor, Viewing that refer premier server program and terminal that acquire and compress and divide reflex and, there is database that manage.

```
// ===== Main --> Display: Data Write
// ===== Host      Data Write
// ===== Smain     Data Read
// ===== Command Code : 0x41 --> ETC. Data Setting
// ===== Command Code : 0x42 --> Cut Off Reset Command
// =====
SData_Read;
delay_count_start=0;
SData_Read0;
if(delay_count_start > 5)goto SData_read_error; // Time Out Checking
if((SLAVE_CLOCK == ON) || (SLAVE_BUSY == ON))goto SData_Read0; // Clock,Busy Low Checki
ng
PScomm_Data=SLAVE_DREAD_IO; // Command Reading
PScomm_Data=SLAVE_DREAD_IO; // Command Reading
SLAVE_DRDY=OFF; // Drdy Low

delay_count_start=0;
SData_Read1;
if(delay_count_start > 5)goto SData_read_error; // Time Out Checking
if((SLAVE_CLOCK == OFF) || (SLAVE_BUSY == OFF))goto SData_Read1; // Clock,Busy High Checki
ng
SLAVE_WRITE_ENABLE=OFF; // Buffer Drive Output Enable
SLAVE_DWRITE_IO=PScomm_Data; // Feed Back Write Command
SLAVE_DWRITE_IO=PScomm_Data; // Feed Back Write Command
PScomm_Data=SLAVE_DWRITE_IO; // Data Save
SLAVE_DRDY=ON; // Drdy High

delay_count_start=0;
SData_Read2;
if(delay_count_start > 5)goto SData_read_error; // Time Out Checking
if((SLAVE_BUSY != OFF))goto SData_Read2; // Busy Low Checking
```

<Fig.3> Display sensing processing



<Fig.4> Communication simulator pictures

3. 결 론

Could realize user administration who do more convenient connection environment and Wonhal as that embody remote medical examination and treatment and reflex data to be run in radio internet browser. Web server manages connection information of connectors as destroyer and service competence and service connection can arbitrate.

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