

Research Article

Design of the Online and Offline System Platforms for Doctor-Patient Communications

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Abstract: In order to strengthen the communication of patient and doctor, from platform of online medical, we set up the online and offline medical system platform objecting the requirements of doctor and patient based on the demands of sharing medical data from the intra-hospital and inter-hospital analysis. By the design of online and offline platform with the theoretical and practical verifications, the communication of doctor-patient platform can be set up to satisfy the online medical requirements and offline medical requirements with different limits, which provide the solvation of medical information sharing and medical resources unbalance. By the online medical platform, the medical reservation, online consults, video medical, medical information query can be served for patient, where can shorten medical cost, help medical resource balance, and set up higher medical application and services.

Keywords: online, offline, doctor-patient, sharing, mobile, APP.

INTRODUCTION

In recent years, the online medical industry in foreign countries has been flourishing and in some developed countries, telemedicine has been quite mature (Pavolini, E. *et al.*, 2018; Habinek, J., & Haveman, H. A. 2019). With the rapid intelligent development of mobile phone terminal equipment (Rao, Y. *et al.*, 2018), telemedicine is also penetrating into the mobile field (Ben-Pazi, H. *et al.*, 2018; Williams, A. *et al.*, 2019). For example, Germany has developed a remote dermatology information system, which can provide remote diagnosis and treatment for patients with skin diseases. After installing the corresponding application on the mobile phone, patients can directly collect skin image data with the mobile phone camera, and then send it to the medical diagnosis unit together with their biofeedback information. Medical personnel will use the computer terminal equipment and the corresponding data analysis platform to diagnose patients.

Domestic online medical applications started late (Wang, N., & Wang, J. 2018, May; Sun, B. *et al.*, 2018), but development is fast, such as some assistant well-known mobile application platforms to retrieve the keywords, medical thousands of applications can be found, and retrieve the word health is the number of

applications to several thousand, the application range is very wide, including doctor visits, make an appointment, medical treasure, health guidance, drug handbook, mobile pharmacy, etc., some high quality application downloads has reached the level of millions. It can be seen that the domestic mobile medical application industry is booming, and is concerned by a considerable number of groups.

RESULTS AND DISCUSSION

Project introduction

The project consists of two parts, online and offline. The online part is composed of the main server, and the offline part is composed of the host client and mobile terminal (Shen, J. *et al.*, 2018, July; Cao, B. *et al.*, 2018). The main server is connected to the system through wired or wireless network.

The main server consists of database module, SMS cat, image processing module, storage module, security module, backup and recovery module, query module, standby server and billing module (Subedi, K. P. 2018; Meier, R. 2012). The host client is connected to the mobile terminal through the website platform or APP (Raja, C. V. *et al.*, 2018; Silva, C. A. *et al.*, 2019).

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The host client is connected to the system through wired or wireless network, and the mobile terminal is connected to the system through wireless or mobile communication; Both patient terminal and doctor terminal can communicate online or offline in real time through this system (Subedi, K. P. 2018; Silva, C. A. *et al.*, 2019).

Research Content

Project from create online medical platform, according to the existing medical unit interior and processing the data of the lateral court demand analysis, according to the need of online medical doctors and patients, propose solutions, and to carry on the theoretical analysis and experimental verification, through the establishment of doctor-patient communication software platform, realize the feasibility of online medical, eventually solve medical resource distribution and the demand of medical information sharing (Shen, J. *et al.*, 2018, July; Cao, B. *et al.*, 2018).

Through the online medical platform, this project can provide patients with medical appointment, online consultation, video consultation, case inquiry and other services, reduce medical expenses, achieve uniform distribution of medical resources, save costs, and establish more advanced medical applications to improve the level of public health care.

The system characteristic

This project includes both online and offline and online consists of the main server, line consists of the host and mobile client end, the main server via wired or wireless network connected to the system, described by the database in the main server module, SMS cat, image processing module, storage module, security module, backup and recovery module, query module, the standby server and billing module (Subedi, K. P. 2018; Ilčev, S. D. 2018).

The network functions include real-time online and offline, real-time online includes real-time communication and distributed communication, which are realized through one-to-one and discussion groups (Tao, F. *et al.*, 2018). Network implementation includes wired network and wireless network. Offline network refers to the realization of offline distributed communication processing by means of message, short message and mobile APP, which is usually realized through the network information platform of the hospital (SMS cat), mobile phone short message and mobile phone APP (Subedi, K. P. 2018; Ilčev, S. D. 2018).

The distributed function mainly refers to the non-synchronous data processing and communication between doctors and patients, which can be processed and communicated at different times for the same problem through network message and SMS platforms,

or through text, voice and video files (Wion, A. *et al.*, 2018).

System Function

First is capable of communicating in various ways, including text, graphics, images, audio and video, etc. Establish the transmission mechanism of image files and video files, and patients can upload images through the platform, so that doctors can more clearly understand the situation of patients. It can communicate in real time or offline.

Secondly, it can provide the function of making an appointment to see a doctor. It can decide whether to go to the hospital or not according to the communication between doctors and patients, and set a specific time to see a doctor (Subedi, K. P. 2018; Ilčev, S. D. 2018).

Thirdly, when the doctor is busy or offline, rely on intelligent terminals such as mobile phone or SMS cat messaging functions, set up long-term offline medical letter communication platform, can facilitate the patients and medical staff in offline communication and exchanges, both doctors and patients are provided on the basis of mutual trust a communication opportunity and way for a long time (Subedi, K. P. 2018; Ilčev, S. D. 2018).

Proposed Problem Solving

How to build the software platform is one of the problems to be solved in this project, namely, how to integrate the database and its management system, server platform, network platform, APP software and medical graphics and image processing software (Subedi, K. P. 2018; Ilčev, S. D. 2018).

How to build a network platform is the second problem that needs to be solved in this topic, namely, how to integrate wired, wireless and mobile communication (Wion, A. *et al.*, 2018).

How to realize online and offline functions is the third problem that needs to be solved in this topic, namely, how to realize online and offline functions and system integration through existing technologies.

CONCLUSION

Uneven distribution of medical resources in this project in view of the current hospital, patients and medical institutions of public service platform to share information between demand and relationship, especially in remote areas of the patients are not able to timely access to a line of medical expert diagnosis, spending a lot of problems of traffic board and lodging, put forward the superior medical resources can be radiation to the patient, let patients at the grass-roots level never leave home can enjoy the expert consultation, and the doctor can use spare time or after work professional solutions, also can make use of the

advantage of network to save medical resources, maximum sharing medical resources.

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