

Smart Medical System Integrated into the Design of Real-Time Monitoring System for Efficient Medical Students' Physical and Mental Health

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Abstract:An embedded visual remote medical monitoring front-end system is introduced, which has the functions of embedded Web transmission of medical students' mental health monitoring data, voice intercom and high-definition visual monitoring. A survey was conducted among 718 medical students using the Five-Factor Mindfulness Awareness Scale, College Students' Psychological Harmony Scale, Self-Esteem Scale, Interpersonal Interpersonal Diagnosis Scale, Trait Coping Style Questionnaire and Symptom Self-Rating Scale. The construction strategy of the smart medical system aims to provide new ideas and references for the smart medical system to adapt to the ever-expanding medical application needs. SPSS 21.0 is used to test the internal consistency of the questionnaire results.

Keywords: Smart Medical System, Real-Time Monitoring System, Efficient Medical Students' Physical, Mental Health

1. INTRODUCTION

Traditional medical technology is easily limited by time and space, often has very large limitations, and cannot provide guaranteed medical services for a wide range of people [1]. The real-time monitoring system for adolescent health based on flexible sensors is composed of wearable flexible sensor collection terminals [2]. It consists of three major parts: the transmission device end and the background expert system. The collection end of the wearable flexible sensor is a collection of physiological parameter detection and energy consumption detection. With the development of network information technology [3] and the growing medical needs of people, the application of digital communication technology to build a convenient and efficient medical service model is an important direction of my country's medical reform. In order to adapt to the needs of the new situation [4].

In 1999, Bill Gates proposed the concept of the Internet of Things in "The Road to the Future". The ITU Internet Report released by the International Telecommunication Union (ITU) in 2005 defined the Internet of Things [5] as follows: reading devices through two-dimensional codes, Information sensing equipment such as radio frequency identification (RFID) devices, infrared sensors, global positioning systems and laser scanners [6]. The Internet of Things technology has promoted the development and innovation of my country's medical and health services, promoted the construction of a smart medical system, and provided people with better medical service experience [7]. The smart hospital medical system is to deeply implement the Internet of Things technology in the medical field, realize the information management of medical treatment and scientific diagnosis operation [8], etc., to prevent pilots from entering non-command altitudes or airspace by mistake. Due to the rapid changes in the speed of the aircraft, the time for the controller to judge [9] and make decisions is sometimes short in certain situations, which will cause the controller to be in a state of high tension and stress.

With the development of the national economy and the further increase [10] of air traffic flow, it has become more and more difficult to maintain a safe air separation between aircraft. The

controller's emotional fluctuations, and even nervousness and anxiety are also [11] common phenomena. In 2017, He Jipeng and others conducted research and analysis on new-type enterprises founded by Peking University alumni from the perspective of Internet-related legislation. These enterprises under investigation [12] have made full use of the technological advantages of the Internet and innovated the development model of enterprises in the process of development [13]. A development form has formed a new wave of development in the industry. It is very suitable for occasions such as remote expert inspections in rural hospitals or medical clinics, and family medical supervision and medical insurance patients. Treatment in the case of waiting for a follow-up visit, etc. [14]

According to the current living conditions of the actual teenagers, the wearable device is planned to use the smart watch terminal to receive [15] the signals of the perception layer; the transmission terminal device is planned to use the smart phone terminal to communicate with the remote server through the collected signals [16], and feed back the diagnosis results for reminders Indicators of various aspects of the body during individual exercise. At present, my country's public medical management system has problems such as high medical costs, few channels [17], and narrow coverage. The main problems that people have strongly reflected on hospitals are insufficient medical resources and cumbersome medical procedures. The Internet of Things [18] is based on the existing network to realize the integration of sensing technology, communication technology and computer technology. It is based on generalized sensing technology and The generalized sensor network involves [19] a wide range of technologies, including a series of high-tech technologies such as RFID, sensor network [20], wireless data communication, etc. As well as laser scanners and other information equipment, under certain conditions [21], any equipment can be connected to the Internet, and then a series of information operations can be performed to achieve an intelligent effect [22].

This paper analyzes the application of EAP in my country's enterprise management, points out that the implementation of EAP plan is divided into four stages: needs assessment, plan design, plan implementation, effect evaluation and feedback [23]. The establishment of the evaluation index system provides some suggestions. In order to solve the above two problems, the author developed an embedded visual telemedicine monitoring front-end system, using the embedded multimedia information acquisition and coding SoC hardware platform and embedded Web server technology to achieve stable and reliable medical physiological health monitoring data. web services [24].

2. THE PROPOSED METHODOLOGY

2.1 The Smart Medical System

By building a regional medical information platform for health records and using the most advanced Internet of Things technology, the interaction between patients and medical staff, medical institutions, and medical equipment is realized. The development of smart medical care abroad is represented by the United States and Japan. At the beginning of the new century, according to the statistics of relevant departments in the United States, more than 60% and 50% of health service institutions and hospitals in the United States have carried out different levels of smart medical services.

At this stage, remote imaging consultation services have covered all states and districts in the United States; 46 and 36 states and districts have established telehealth services and smart medical consultation services based on family medicine. RFID technology is radio frequency identification technology, which is a non-contact automatic identification wireless communication technology. It can identify specific targets and read and write related data through radio frequency signals without the need to establish mechanical or optical contact between the identification system and the specific target. The application of the smart medical system to the management of medical equipment can greatly improve the intelligence and science of medical equipment management. With the help of the network platform formed by the smart medical system and the equipment management department, the equipment management personnel can know the use of medical equipment at any time, and make clear records of the use of medical equipment.

2.2 The Physical And Mental Health of Efficient Medical Students

SPSS 21.0 was used to conduct internal consistency test, common method deviation test, descriptive statistics, independent sample t test, and Pearson correlation analysis. Exploring the connotation of the mental health of medical students actually limits the main body of mental health. That is to say, when defining the mental health of medical students, it is not only necessary to consider the connotation of mental health itself, but also to fully integrate into the medical itself. Features. Therefore, combining the characteristics of medical students and the connotation of mental health itself.

The five-factor mindfulness-awareness scale (FFMQ) has a clear and reasonable division of each dimension, with comprehensive content and good applicability. In clinical studies in my country, it was found that the Chinese version of the FFMQ, translated and revised by Deng Yuqin, can be used as a measure of college students' mental health. indicators, which in turn can predict the relationship between mindfulness levels and other variables. The mental health of civil aviation controllers refers to the state of their

psychological adjustment ability and psychological feeling, internal and external coordination and unity, that is, the controller can maintain a good state of psychological efficacy in the team, department, family and social environment, Integrity and coordination of knowledge, emotion, intention, behavior and personality to achieve balance and unity with the environment.

The Self-Rating Scale of Psychological Symptoms (SCL-90) is the most widely used mental health scale at home and abroad, with wide coverage and high reliability and validity. Therefore, this study uses this scale to evaluate the mental health level of medical students. The scale includes ten factors in total. The smart medical system involves a wide range of fields, including many application links. Each link has its own special scope of work and work standards. Different motivations may lead to the formation of information islands between the original system and the terminal. Second, medical students in advanced medical schools face a more complex situation in their environment than students in other majors.

2.3 The Design of Real-Time Monitoring System for Efficient Physical and Mental Health of Medical Students

The purpose of telemedicine is to provide remote patients with the same medical environment as local patients as possible. Therefore, on the basis of the traditional telemedicine system, the system has been improved in the following aspects. First of all, the traditional telemedicine system only collects the medical physiological parameters of the patient, and cannot realize the functions of "seeing, smelling, asking, and cutting". In view of the needs of flexible array sensors for wearable devices, from the perspectives of sensitive material preparation, sensing unit structure optimization, etc., explore the mechanical and temperature properties of sensor sensitive materials, as well as the optimization and improvement of sensor structure and preparation process, and solve the flexibility of flexible sensors. elasticity. It can be seen from Table 4-2 that there is no significant difference between male and female medical students in the eight dimensions of obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychosis, and the total score of mental health. Male medical students scored significantly higher than female medical students on somatization and the other two dimensions.

At present, college students, including medical college students, are widely troubled by the inability to adapt to college life, mainly due to the huge changes in the living environment of college students, especially as medical college students due to the high degree of medical professional. The technicality and professionalism of the medical professional, and the seriousness and rigor of the medical profession, the medical equipment management adds counters, timers, etc.

3. CONCLUSIONS

This system can realize the functions of front-end collection data display, voice intercom and monitoring video display through web browser, and the results mainly include video, audio and medical parameters. Mental health status showed differences with grades. In addition, gender differences, urban-rural differences, and differences in educational system are also the main characteristics of medical students' mental health. Judging from the survey results, although the mental health of medical students in the school is generally good, there are still serious problems.

4. REFERENCES

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