Intelligent Platform Design for Intelligent Technology to Empower Martial Arts Training

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Abstract:This paper designs and implements an intelligent and scientific martial arts prescription intelligent system. The user scans the QR code on the official website of the smart coach with an Android phone or an Apple phone to download the mobile application APP, installs, registers and logs in, and then enters the mobile application APP. The main functions of intelligent training venues for basic personal information include fast feedback and multiple processing of sports video images, real-time acquisition and feedback of sports technology, quantitative physical fitness monitoring, non-invasive monitoring and evaluation of motor function, sports nutrition and trace element supplementation, post-training recovery system, and more. It can provide scientific data sources for researchers and coaches by monitoring the training environment and physiological state of athletes. At the same time, it can also provide support for the amount and intensity of sports training. Greatly promote the efficiency of Chinese martial arts teaching and competition.

Keywords: Intelligent Technology, Empower Martial Arts Training, Intelligent Platform Design

1. INTRODUCTION

The Chinese nation's rejuvenation holds decisive significance, and martial arts in schools not only offer physical benefits but also cultural cultivation. The pursuit of "the way of civil and martial arts" has become a collective unconscious for Chinese talent [1]. The Internet of Things (IoT) began with Xerox's NeWt network cola vending machine in 1990, and Professor Kevshan Ahs-otn from MIT proposed the concept of IoT in 1991. The state should create an "Internet +" action plan to integrate modern manufacturing with mobile internet, cloud computing [2], big data, and IoT, and promote healthy e-commerce, industrial Internet, and Internet finance development. Improving commanders' planning and command capabilities is a critical issue in current command training research. Under the scientific leadership of the Chinese Athletics Association, Chinese track and field has progressed and developed in recent years [3]. With modern technology, sprinter Su Bingtian broke the Asian record with a score of 6.42s, which was highly praised by the Chinese [4].

The government should create an "Internet +" plan to integrate technologies such as mobile Internet, cloud computing, big data, and Internet of Things with modern manufacturing, and encourage the growth of e-commerce, industrial Internet, and Internet finance. Improving commanders' capabilities to plan and lead military operations is a crucial issue in current command training research [5]. To address problems in army command training, the author analyzed design requirements for an intelligent army command training system [6]. Chinese track and field has made significant progress in recent years under the leadership of the Chinese Athletics Association. Sprinter Su Bingtian set new records with a time of 6.42s in the 2018 World Indoor 60m Competition [7], breaking the Asian record he had previously maintained three times. He also achieved a time of 9.91s twice in the 100m of an international competition, equaling the Asian record and earning high praise and attention from the Chinese [8].

The mastery and use of police defense and control technology is a necessary professional [9] ability for every police officer in law enforcement activities [10]. Its training and evaluation occupy a major [11] position in the police skills teaching of various public security colleges and universities across the country. However, the use of simulation technology to improve the training effect Or the technical level almost never happens [12]. The exhibits are the main body of the science popularization function in the science and technology museum. They mainly display multi-disciplinary knowledge such as physics, mathematics [13], mechanics, and earth through devices manufactured by computers, projectors, PLCs, touch screens, industrial robots and other equipment. The traditional method of exhibit management in the science and technology museum [14]: when the museum opens every day, after the staff is powered on at the exhibit distribution box, each exhibit is individually powered on [15]. The pursuit of "the way of civil and martial arts" has become the pursuit of talent by the Chinese nation. One God collective unconscious [16].

Therefore, the school inheritance of Chinese Wushu in the new era should not only continue to assume the basic role of strengthening students' bodies, but also provide assistance for cultivating talents in the new era and inheriting the "Way of Civil and Martial Arts" [17] in the new era. Using radio frequency identification (RFID, RadioFrequ i.e. Id i.e. tifieaiton) and wireless data communication technology, construct a system covering everything in the world. This is the prototype of the Internet of Things, which aims to improve the level of modern logistics and supply chain management and reduce costs [18]. This is also known as a revolutionary new breakthrough in modern logistics information management. If the mobile Internet and sports health are combined, By providing users with mobile Internet sports products such as sports mobile phone App, Internet sports wearable equipment [19], sports prescription library, personal training health model platform, etc., it also provides users with running circle, cycling circle, sports circle and other sports health and network social merger software and application [20].

The research on actions and play under different combat missions, opponents and environments is ignored, and the

training results are impractical and difficult to implement; in terms of training objects [21], commanders have formed the habit of relying on agency operations, answering questions according to templates, and commanding according to the sand table, forming a fixed mindset. Research on the construction and functional design of intelligent training venues for the national martial arts team should focus on identifying the needs and functions that the venues should have, such as the sports they will serve [22], the layout of each sports event venue, and the functions and methods required for each sport to achieve optimal performance. Other countries, such as South Korea, have excelled in sports scientific training and evaluation, with specialized laboratories and full-time researchers developing professional software and equipment to improve the level of competitive sports in their country [23].

2. THE PROPOSED METHODOLOGY

2.1 The Smart Technology Empowerment

Informatization refers to the extensive, profound and structural impact and degree achieved by information and information technology on social development. Its basic characteristics are digitization, networking, automation, intelligence and integration. Through system integration and several features, the seamless connection between devices, between networks and between systems is realized. In the construction of the command and training system, the command and training function of the current command and training system is weak.

First, the elements of combat simulation are not real and comprehensive, which is prominent in the simulation of electromagnetic, hydrological and other elements, the simulation of special arms and rear support operations is not comprehensive enough, and the support for key training content and the evaluation system are incomplete. A special survey of track and field coaches, athletes, scientific research managers and related auxiliary staff shows that the demand for the construction of intelligent training venues for the national track and field team basically reaches more than 99%. At the same time, according to the work experience and knowledge accumulation of scientific research and scientific and technological services for the national track and field team for many years, the operation and maintenance platform in this article mainly involves 166 exhibits and 4 lighting control cabinets. At the same time, the platform obtains real-time data of the entrance and exit gates of the second-floor sequence hall to record and display the historical number of visitors and the real-time number of people in the museum.

This paper makes a special study on the construction requirements and functions of the national track and field team's intelligent training venues. "3D simulation", "digitalization" and "objective evaluation" are the key words for the design of the intelligent training evaluation system. If the police defense and control technology training evaluation system The development and application will open up a new situation of police education and training across the country. In this study, by collecting and recording the results of 3014 cases of anti-nuclear antibodies detected by ELISA and LIA in Panyu Central Hospital, the results were calculated and analyzed. The total agreement rate of the two methods for detecting anti-nuclear antibodies was 92.2%.

2.2 The Smart Technology Empowers Martial Arts Training

Exhibit control can be divided into three types: whole hall control, exhibition area control, and single exhibit control. The latter provides power-on, power-off, and restart functions for selected exhibits, while the former two are used for larger areas of exhibits. The number of LIA positive/ELISA negative cases is relatively low, which could be due to the different detection techniques used by the two methods.

Exhibit control is divided into whole hall control, exhibition area control, and single exhibit control. The control of a single exhibit is power-on, restart (uninterrupted power, computer restart), power-off (computer, projector and other equipment are powered off after shutdown), which can control the selected exhibits. The number of LIA positive/ELISA negative cases is small. There may be two reasons for this inconsistency in the analysis. One is due to the different detection techniques of the two methods. The LIA method is a highly purified single antigen coated on a nitrocellulose membrane strip, while the ELISA method is based on polyethylene. The bottom of the wells of the microtiter plate is coated with mixed crude antigens, which reflects the difference in the sensitivity of the two in detecting antigen components.

2.3 The Intelligent Platform Design Of Martial Arts Training

There are usually different goals and tasks in sports training, and the information perception methods adopted are also different. This is also one of the distinguishing characteristics of the application of the Internet of Things in martial arts training different from other applications. From different levels of combat organization, From different global and local perspectives, the characteristics of battlefield entities of different granularities are extracted; then combined with the prior knowledge in the knowledge base, the classification and association analysis techniques in data mining are used to realize the uncertainty analysis of the state and behavior of battlefield entities.

The LIA method employs a highly purified single antigen coated on a nitrocellulose membrane strip, while the ELISA method is based on the bottom of the wells of the microtiter plate coated with mixed crude antigens, reflecting their different sensitivity in detecting antigen components, experimental testing and demonstration are also required to achieve intelligent sports. Requirements and standards for venue construction. The network system interconnects all networked devices through various means, supports all communication and transmission tasks of information management interaction, and communicates at high speed. This paper adopts the most commonly used switched Ethernet local area network technology, and connects various devices through a three-layer network structure. Martial arts include endurance martial arts and strength martial arts.

Endurance martial arts are mainly composed of common martial arts such as running and cycling. Strength martial arts are mainly to exercise the core muscles of the body. The core muscles are composed of rectus abdominis, transverse abdominis, oblique muscles, erector spinae, etc. The skeletal muscles around the joints, the gluteal muscles, and the coaches use the sensors worn on the athletes' wrists to understand the athletes' body temperature, blood pressure, heart rate and other data during training, and adjust the athletes' training status through data analysis to ensure the

normal performance of the training level. The system builds a virtual training environment, and the main users are the commander and the staff of the chief agency, and can provide training support for the staff of different departments and positions in the command post.

3. CONCLUSIONS

Utilizing the Internet of Things to play the role of inspection instruments, promoting the improvement of the training level of the Wushu team, realizing the modernization of Wushu management and training management, and fully meeting the needs of Wushu players in terms of study and life are undoubtedly a new aspect of the reform of sports training. taste. It has not yet risen to cultivating talents with both civil and military skills. The functional design of intelligent training venues includes fast feedback and multi-processing of martial arts video images, real-time collection and feedback of martial arts techniques, quantitative monitoring of physical fitness such as strength and speed, non-invasive monitoring and evaluation of martial arts functions, martial arts nutrition and trace element supplementation, and post-training recovery system , Wushu injury prevention and intervention, Wushu player learning and coaches intelligent management.

4. REFERENCES

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