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The Research on Application of Information Technology in sports Stadiums

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Abstract

With the Olympic glory in the national fitness program planning and the smooth development of China , the public's concern for the sport continues to grow, while their physical health is also increasingly fervent desired, the country launched a modern technological construction of sports facilities . Information technology applications in the sports venues in the increasingly wide range of modern venues and facilities, including not only the intelligent application of office automation systems, intelligent systems and sports facilities, communication systems for event management, ticket access control system, contest information systems, television systems , Command and Control System, but also in action including the use of computer technology, image analysis, computer-aided training athletes, sports training system and related data entry systems, decision support systems.Using documentary data method, this paper focuses on the research on application of information technology in Sports Stadiums, and try to explore its future trends. With a view to promote the growth of China's national economy and ,so as to improve the students' quality and promote the cause of Chinese sports.

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With the rapid development of Economy and technology , modern information technology has been entering the field of sports .At present the international and domestic sports competition organization and management, relevant supporting athletes training, sports specific equipment research and development facilities, sports information network construction and development of sports utility software applications, computer information technology are indispensable .

At the present time, With the Olympic glory in the national fitness program planning and the smooth development of China the public's concern for the sport continues to grow, while their physical health is also increasingly fervent desired, the country launched a modern technological construction of sports

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facilities climax. Information technology applications in the sports venues in the increasingly wide range of modern venues and facilities, including not only the intelligent application of office automation systems, intelligent systems and sports facilities for the event management of communication systems, network systems, check-in access control system, contest information systems, television system, news publishing system, large screen display system, dispatching system, but also in action including the use of computer image analysis technology, the image of three-dimensional animation, Sport psychology questionnaire to measure, computer-aided training athletes, sportstraining system and related data entry systems, decision support systems.

In this paper , information technology applications in the stadium situation and the impact of research and analysis, and try to explore its future trends, so as to improve the students' quality and promote the cause of Chinese sports.

1.The Application Status of Information Technology in the Sports Stadiums

At the present time ,here's no exact definition for information technology, but considering its application development we believe that information technology usually stands for the process of computer and communications technology to collect, store, processing, transmission, display that includes sound, images, text and data in a variety of information including a range of modern technology. Depending on the nature of sports facilities. It can be divided into three categories: sports venues, sports teaching and entertainment venues , and entertainment venues. This will be the three aspects of information technology in the sports stadium

1.1 The application of Information technology in Sports Stadiums

The success of the 2008 Beijing Olympic Games vigorously promote Beijing's informatization, in the same time, the concept "tech Olympics" is extremely popular. Information technology arena in the major sports venues on the promotion and application of progressive attention, the main application areas are as follows:the application of information technology has been more and more valued.

1.1.1 Organization and control of track layout

Sports stadium access control system installed smart ticketing and ticket control system, playing an important role in the maintenance of security and the smooth progress of events.

While the application of information technology systems such as Command and Control System and related sports scheduling software can be more reasonable.can plan events better and ensure...). For example, the use of computer software operating schedule can save a lot of time, manpower and material resources, people can draw a pre-established rules of the game group, then the system can develop detailed rules and race schedule, record scoring single, large number of roster players tedious work.

1.1.2 Data processing with a computer mass storage

High-speed computing, simulation analysis capabilities for multi-functional large-scale specialized databases, such office automation systems and communications system for event management, competition information systems, information release system, etc., all ensure that events' accurate information can be stored and inquired more conveniently, and guarantee the security of relevant data.

Related data, includes athletes' online registration, information collected automatically competition results, and performance integrated treatment.

1.1.3 High-speed photography and video combined with computer technology

Radio and television broadcast events broadcast digital photography equipment and other modern information technologies in sports venues, in major competitions and performances related to the application can not be discounted, it can reproduce the wonderful scene to the audience, and send around the world. For the promotion of their events and economic efficiency are important.

1.1.4 Competition intelligent equipment

1912 Olympic Games for the first time in the fifth track electronic timer, the development has the intelligent sports equipment in use has gradually spread. Athletics, basketball and other programs are using electronic scoring, high jump, long jump, fencing, sensors and other smart devices project also record results with Inductive devices. The application of intelligent instruments and equipment not only provides a fair and just environment for the sports events, but also makes the events more ornamental.

1.2 *The application of Information technology in physical education training venues*

1.2.1 Analysis on training program to develop athletes

Researchers rely on computer technology from the perspective of energy metabolism in the muscles of athletes trained characterization, using the amount of training for the coaches, training, help posture, and can effectively prevent muscle damage caused by improper training.

1.2.2 The application of modern electronic media equipment in gymnastics

Diving trampoline and other skills class project competition routine fixed, increasing degree of difficulty of adjustment while stabilizing the level of required technology, has reached the limits of human movement. In these sports training, athletes rely mainly on subjective experiences or coaches' guide to improve sports skills. In order to analyze one's own and the other's strengths or weaknesses, we use cameras and other electronic media devices to shoot the movements of both, then analyze the slow-motion, therefore we can effectively improve the athlete's technical level.

1.2.3 The application in the training of physical education

With the development of competitive sports and the technology, athletic performance has become increasingly close to the limits of human physical, thus to create a new world record becomes more difficult.

Today there is the tendency to use information technology in various fields, and the information technology-based methods provide a scientific basis for the improvement of sports training and sports performance. Now the information technology is widely applied to various fields of sports training, including training programs and monitoring and management, and simulation applications.

Meanwhile, using the multimedia technology in physical education has become a trend in sports venues, especially in teaching and training. Multimedia information technology stimulates students' interest, enhances the students' knowledge and understanding of physical theory. A large number of virtual reality technology and graphics, images, 2D animation, sound make the teaching colorful, vivid, which can greatly increase students' learning efficiency and quality of physical education.

1.3 *Information technology in sports fitness and entertainment venues in the application*

Physical fitness and entertainment venues use the information technology to form physical products technology products, mainly in the following areas:

1.3.1 fitness and entertainment venues in Fitness Club

Like treadmills, and the other fitness equipments, these are the most common sports intelligence products in fitness and entertainment venues. At the same time, the fashionable online campaign of sports begun to attract wide attention, which operate through the computer, database, network technology, carrying out fitness guidance for remote participants. Online sports platform of these fashionable sports and fitness programs meets the needs of different consumers, also providing online guidance.

1.3.2 Application of intelligent management systems

We can Use computer software programming and multimedia information technology to achieve the automation of fitness and recreation sports management, and establish health management systems and office automation systems. Electronic information software can store a large number of public health data,

members of the basic information, establish a special database to manage customer information and confidentiality. Access control systems of electronic sensor equipment and the automation system of fitness equipment save manpower and resources, offering better protection for fitness and entertainment venue's operation.

2 Trends of Information Technology In Sports Stadiums

Modern Sports have been closely related to information technology. Information technology has injected vitality into the development of sports, while sports provide a platform for the development of information technology. Modern digital information technology has been widely used in sports stadiums, and has become an important support for the development of force. With China's information technology applications in the stadium design and management aspects of a late start, there are still many deficiencies to be improved, according to foreign intelligence stadium construction and development experience and our own problems, the following future trends

2.1 More professional personnel in management.

As China's development of sports facilities information intelligent development of late, the domestic sports venues, the level of information thrown at an early stage, and also lacks professional personnel of management for sports venues and facilities. The general design institutions lack sports facilities and competitions designed to match common sense knowledge, but also the owner of the venue and intelligent information technology requirements unclear, leading to irrational stadium design, information technology equipment, things that do not meet the competition requirements have repeatedly occurred in What is more cause events can not proceed smoothly. Venues such as weak in the construction of the future, to strengthen the owner, designer, event-related parties and the State Sport General Administration negotiate with the functional units to communicate, these problems should be able to get a better solution.

2.2 More applications of software in sports

On the exhibition of Cooperation and exchange seminar in Central Europe, the Spanish company can be used in China brought the game intelligent football analysis software. Using the camera to record the first half of the game, through an analysis of monitoring software, the coaches can give guidance to athletes and rearrange the lineup in the half- time interval. The software in sports venues and training venues is needed in competition and teaching to improve performance, achieve greater progress. At present, China began to develop a variety of sports software, and its outstanding advantage is that we can tailor it for our actual needs. Its more in line with the Chinese athletes in areas such as physical and technical strengths and weaknesses, to conduct a comprehensive analysis.

2.3 More application of the Information technology in the magistrates system

In a number of projects China has begun to use electronic scoring system, which increases the fairness in competition. However, due to modern gymnastics, diving and other skills project is moving into a newer, more difficult, stable and beautiful direction, and the prominent feature is a beautiful, artistic and ornamental, the current skills of athletic performance for a given project depends entirely based on referee The athletes completed action, according to the rules of the subjective score, the result would have a considerable degree of error. Therefore a challenge for the judges score, and the emergence of intelligent information technology equipment guarantees fairness, reasonableness and accuracy. Game, multi-directional high-speed digital image acquisition device to collect the player's body movements in

three-dimensional space, the incoming computer image, the image recognition processing software to identify, and in accordance with the requirements of the rules results in a given game.

2.4 Closer to the popular

Digital information technology in the sports stadium in the application will progressively become popular. If fitness is a card containing a computer, database, network technology, smart cards in public health activities in an application, health card in play to make the purchase and payment of public places of consumption, physical activity is more cost efficient, convenient features, while , will contribute directly to health spending, will help drive the development of mass sports.

2.5 More applications of Information technology in teaching and training in the stadium.

The application of modern information technology in physical education training venues show a broad prospect, such as the use of simulation methods can be problems in the field of sports comprehensive integration of experimental science, to develop accuracy of technical indicators, more effectively guide the training; the use of computer multimedia technology, sports video processing, decomposition, opponents of scientific analysis, the lack of and opponents to find their own shortcomings, so know ourselves; expert system through sport complete the selection of athletes, support training and evaluation, and so on.

3 Conclusion

With the rapid development of internet, informatization of economic and social has become a global trend. Today's information technology has greatly changed the social life, sports and electronic information naturally become the inevitable demand for sports, especially the more rapid development of sports in our country today the more focus of attention.

A wide range of applications of Information technology in sports venues have made great contributions for our sports and mass sports development. It is precisely the modern information technology support makes the development of various service-oriented sports products possible, such as fitness equipment, scoring equipment, related software, sports management, sports and other electronic databases, which have contributed to China's sports venues, the development of intelligent information.

We can combine the experience and lessons in development, identify developing problems, and strengthen all aspects of intelligent building sports venues, so as to promote the continuous development of our sport, turning China into a sports power.

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