Research on Intelligent Remote Physical Education Teaching System

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Abstract: The current intelligent physical education teaching remote system has a certain gap from the whole to the physical education, on the one hand, the function of the long-distance teaching system is not fully exerted, and on the other hand, the teaching quality of the long-distance sports is affected. In addition, the traditional remote sports teaching system has the problems of intelligence, poor individuation and lack of interactive means. According to the need of physical education, based on the agent technology, the intelligent and remote physical education teaching system, the intelligent and the individuation of the long-distance education system are designed, and the teaching effect of physical education is improved.

1. Introduction
Modern distance education system is based on modern network technology, distance teaching will not be limited by teaching time, space and geographical location, and can expand the course to every corner of society with the help of modern network technology. Under the support of the network, learners can learn at any time and place. According to the disadvantages of the current distance teaching system, an intelligent distance physical education teaching system based on mobile Agent technology is established in this paper. Compared with the traditional distance education system, the system has higher intelligence, adaptability, maintainability and extensibility.

2. Overview of Agent Technology
The agent is based on the imitation of human behavior, has a certain self-running ability and provides the corresponding service program, compared with most of the current software entities, the granularity of the agent is larger, and the intelligent level is higher.

Another very important feature of mobile Agent is its mobility. Agent can independently carry tasks and task-related data from one host to another on the network, and can complete unfinished tasks in the new environment. Mobile Agent technology is the product of the combination of distributed computer technology and Agent technology. The emergence of Agent technology promotes the development and rapid development of intelligent system.

3. The Intelligent Distance Education System Based on Agent
According to the specific needs of physical education, In the design of Agent intelligent distance teaching system, the system can be divided into teaching Agent, management Agent, teacher Agent, student Agent. according to its specific functions. Each different module can protect the client and server according to the working relationship. This is actually a multitier agent structure, which is beneficial to the effective operation and maintenance of the whole system. Among them, student
Agent and teaching Agent are distributed on different workstations of the system, and have interface Agent, and system A on either workstation. Gent is set up on the server to meet huge requirements.

3.1 Teacher Agent
Teacher Agent is mainly used to assist teachers in the management and control of teaching. After teachers log in to the intelligent remote physical education system, a teacher agent will be automatically generated. On the one hand, the teacher agent will help the teacher and the network teaching system to carry out the teaching. Through the teaching agent, the teaching agent can guide and control the teaching process, and timely understand the student's song learning process and the learning response, and answer the problems of the students. The teacher is able to do the students in time if there is a bias in using the teaching system for physical education. Correct it. In addition, teachers can also answer the problems encountered by students in the process of learning in a timely manner. On the other hand, teacher Agent can also play the role of professional database, and can actively collect physical education knowledge materials to ensure that they can provide rich teaching resources for students studying physical education, and establish a systematic curriculum framework to choose A-gent. According to teacher intervention and student response, the knowledge base of the system can be expanded and adjusted, and the sports knowledge information can be obtained by means of network to form more meaningful knowledge.

3.2 Student Agent
The Agent of the students in the system will be controlled by the teacher Agent, mainly to assist the students in the learning process. The system can provide students with interactive interface, actively guide students' physical education learning, and choose learning strategies suitable for students' learning characteristics from the learning strategy base according to the actual learning situation of students. After the students' learning behavior is completed, the learning results will actively return to the students model base. In addition, the student's song basic information and the study record can be viewed, on the basis of understanding the student's learning situation, the student's initial study information is presented for this study. The student agent user analyzes the student's learning behavior through the interpersonal interface agent in this learning process, and can prepare for the further study of the user.

3.3 Manager Agent
The function of managing Agent is mainly to manage and coordinate the whole system. In the whole system, Agent mainly controls the whole teaching situation. The management Agent in the system can actively obtain the data and resources of other Agent in the system, and can actively generate the related management data. These numbers include students' learning time, students' learning location distribution and so on, which can help managers react quickly.

3.4 Teaching Agent
Teaching Agent has the knowledge needed to solve the problems in related fields independently, and is responsible for the specific teaching tasks in the system. It can provide contact with the student model according to the needs of the students. In the teaching activities, it can help the students to provide learning suggestions, and can help the students to complete part of the contact and so on.

3.5 Human-computer interaction interface Agent
The interpersonal interface Agent in the system is mainly responsible for the interaction between teachers, students, managers and teaching and management systems, and records them. Human-computer interaction interface (Agent) is responsible for registering students' current learning status, understanding students' learning progress, and trigger teaching Agent to provide personalized services for students according to their different characteristics. At the same time, the human-computer interaction interface Agent in the system should also monitor and evaluate the students' learning
process in real time through the interactive information of the system, and control the scope of the students' discussion and the time of the discussion.

4. Working principle of Agent Intelligent distance physical Education Teaching system

Network based Agent intelligent system mainly refers to communication and control mode between Agent, which is related to the overall performance of Agent system. As long as the student logs in this sports remote learning system, firstly, the student information file is automatically established in the control interface Agent, and the contents and evaluation of the students’ learning sports are accurately recorded, and these data are input into the system information base. Secondly, students need to select the catalog of physical education courses according to the learning catalogue provided by the control interface, and they will enter the intelligent learning system. In this learning system, any student will become an independent student Agent, student Agent in the intelligent control test and so on. In the whole learning process, student Agent and Agent interact frequently with the intelligent control community. In addition, the sharing of teaching resources can be realized among multiple students Agent. When students use intelligent physical education distance teaching system to learn, students can carry out targeted learning according to the teaching strategy provided by the system to ensure the order of learning. The process through which students use the system for learning is shown in figure 1.

![Figure 1. Agent-based learning process for intelligent long-distance sports system](image-url)

When the teacher logs in to the intelligent distance physical education teaching system, the system can actively generate the teacher Agent. It can be based on the reasoning mechanism of the system itself, On the basis of understanding students’ learning physical education courses, different students can produce targeted teaching strategies. There are many teaching strategies directed by teacher Agent to students in the system. Agent can help students decide the final learning strategy according to their own intelligent characteristics according to the characteristics of students' learning. When choosing teaching strategies, we should also ask students to actively configure students' Agent, which can give teaching Agent a comparative principle. In the course of students' actual learning, students' Agent will receive teaching sent by teachers. The strategy list contains teaching progress, teaching methods and so on any list. If these teaching strategies provided by teachers, teacher Agent needs to change more
appropriate teaching strategies. In the teaching process, the teacher agent mainly wants to add the data to the database, such as the physical education curriculum achievement, the physical education curriculum content and so on. In addition, when teachers carry out physical education teaching, they also need to adopt different teaching strategies according to the specific learning situation and physical education learning progress of the students in the student model database. Teacher agents need to record the latest teaching strategies and other information into the system in a timely manner for students to learn and other Physical education teachers provide reference for teaching.

In the system, the system also generates a management agent. The main function of the system is to manage the teaching strategy library, the student model base and so on in the system, and to back up various system information in time to prevent the loss of effective data. In addition to the above tasks, it is necessary to process the data in the teaching information base in time, so as to ensure the effective operation of the whole data and improve the operation efficiency of the system. The management agent in the system is mainly the management of the teaching secretary to the whole teaching situation and the coordination among the parts, so as to reach the system. The purpose of long-term stable operation is to manage and maintain the data in the system.

5. Conclusion

Based on the actual needs of distance teaching of physical education at present, this paper studies the intelligent distance physical education teaching system based on Agent technology. On the whole, the system involved in this paper has the following obvious characteristics: First, the system has stronger participation, can update the teaching resources in the system in time, and can meet the needs of students for physical education learning. Second, it has stronger interaction. In the process of design, the system takes fully into account the interactive needs between students and teachers, as well as the interactive needs between students, which can solve the problems existing in learning in time and improve the learning efficiency rate. Third, the system can solve the problems existing in learning and improve the learning efficiency rate. The system has strong self-regulation ability and can always display the most suitable teaching resources in front of students in a reasonable way.

The teaching system tries to use the intelligent characteristics and communication mechanism of Agent to obtain the collaborative solution environment of teaching problems. Therefore, the system is more humanized and can teach students according to their aptitude. Compared with the traditional distance teaching system, the system is more flexible and diverse, and can better achieve the goal of physical education distance teaching.

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