

Application of Virtual Reality Technology in Experimental Psychology

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Abstract

In today's era of rapid development of computer network, most of the electronic medical projects are also rising and affecting people's lives, in which virtual reality technology plays an important and positive role, especially for some mental diseases, virtual reality technology has a very good therapeutic effect. In the words of information engineering, virtual reality technology can not only promote the development of experimental psychology, but also provide a variety of research directions for psychological research, to assist in the construction of a computer software platform aimed at enriching psychological information.

Keywords: Virtual reality technology; Experimental psychology; Virtual model; Simulation Laboratory

1. INTRODUCTION

With the deep integration of virtual reality technology and experimental psychology, a psychological teaching system with a sense of virtual reality has been created. The construction of psychological teaching system greatly promotes the application function of virtual reality technology and realizes the model innovation of experimental psychological teaching [1]. The virtual reality psychological teaching system takes the virtual device as the reality carrier, and designs several key parts of data resource database and simulation teaching system. The function of virtual device is mainly to connect users with virtual reality psychological teaching system [2]. Users can complete a series of virtual reality simulation behaviors only through the function of virtual device [4].

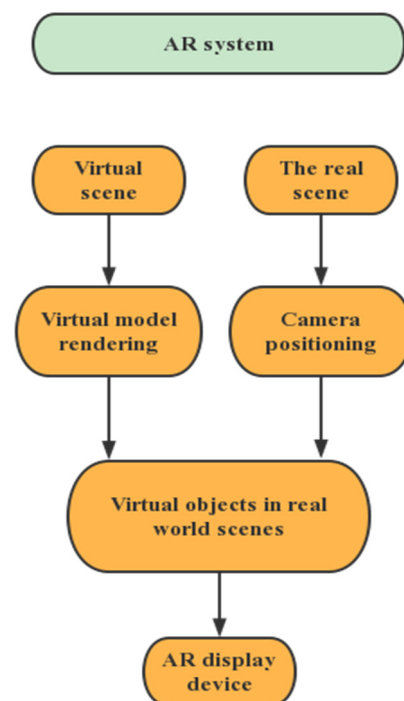


Figure 1: Virtual environment construction process

The data resource database collects teaching resources by using computer digital technology and automatically generates valuable teaching resources to form a professional learning platform [11]. Students can download and watch resources according to their

learning needs. After wearing the virtual device, students can quickly immerse themselves in the virtual learning environment. Virtual reality psychological teaching system can balance all kinds of teaching resources, break through the limitations of space and region, and enable users to learn conveniently and with high quality [15]. Other experts have built a mental health terminal system based on virtual reality technology. In this system, remote mental health consultation and online consultation can be carried out, and a simulated patient can be used to carry out a series of simulation measures. Doctors conduct condition analysis and treatment plan for simulated patients, so that more users can enjoy customized health services [9].

2. EXPERIMENTAL PSYCHOLOGICAL SIMULATION TEACHING SYSTEM

Virtual reality technology is mainly used in the treatment of mental health, such as depression, mania, acrophobia and so on. Virtual reality technology can be used to create a quiet and soothing environment, let patients stay in it, let patients quickly integrate into the environment, calm down and communicate with medical staff [13]. In this environment, it is easier for patients to express their inner thoughts. Virtual reality technology makes up for the traditional psychotherapy and makes the treatment of mental health more diversified [5]. At the same time, virtual reality technology also promotes the improvement of mental health database and application software, and provides a high-quality treatment environment for medical staff [6].

A mentally healthy person can experience his own existence value, understand himself and accept himself [7]. He has self-knowledge, that is, he can make an appropriate and objective evaluation of his ability, personality, emotion, advantages and disadvantages, and will not put forward harsh expectations and requirements for himself; They can also set realistic goals and ideals for their own life, so they are always satisfied with themselves [12]. At the same time, they should strive to develop their own potential and deal with them safely even if they can't remedy their own defects. A mentally unhealthy person lacks self-awareness and is always dissatisfied with himself [10]. He always blames himself and feels inferior because his goals and ideals are unrealistic and the distance between subjective and objective is too far. He always asks himself to be perfect, but he can't do it perfectly, so he always has a hard time with himself. As a result, his psychological state can never be balanced and he can't get rid of the psychological crisis he feels he will face [14].

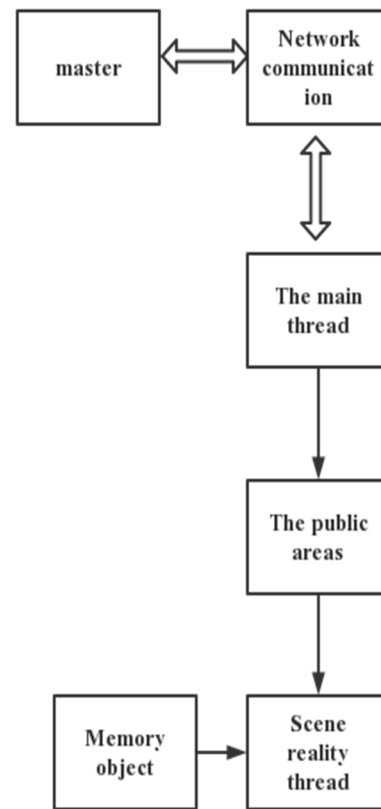


Figure 2: Virtual music scene

3. COMPUTER VIRTUAL EXPERIMENT STRUCTURE

Experimental psychology can apply virtual reality technology to mental health intervention. Firstly, the mental health system is used to analyze the psychological problems of users, and the psychological intervention mechanism is developed. According to the psychological characteristics of all aspects of users' behavior, we collect and collect the data as a whole [17]. Therefore, a complete and comprehensive mental health intervention mechanism has been formed [18]. With the mental health intervention mechanism, it can help users solve some psychological problems and improve the health mechanism. Mental health system combined with virtual feedback system allows users to develop and evaluate the characteristics of psychological problems in the process of treatment [8].

Virtual reality technology plays an important role in experimental psychology. Experimental psychology applies virtual reality technology in all teaching links. The teaching operation of psychological experiment has always followed the previous practice, that is, it simply depends on textbook knowledge and teachers' explanation, does not fully stimulate students' learning initiative and ignores students' leading role. Moreover, psychological experiments can only be operated under the leadership of teachers [16]. Although they can guide the experiment and avoid the mistakes of the experiment,

they do not make the students' ability get corresponding, but make the students blindly rely on the help of teachers, which greatly affects the students' initiative. Using the virtual reality teaching system, students can carry out psychological experiments in a very low restrictive environment and reduce the experimental cost. It is essential that students can get rid of the influence of teachers, learn to carry out experimental calculation and analysis independently, and constantly cultivate professional practical ability [3]. Making full use of virtual reality technology can promote students' learning, mobilize students' learning enthusiasm, and provide important technical guarantee for the development of experimental psychology.

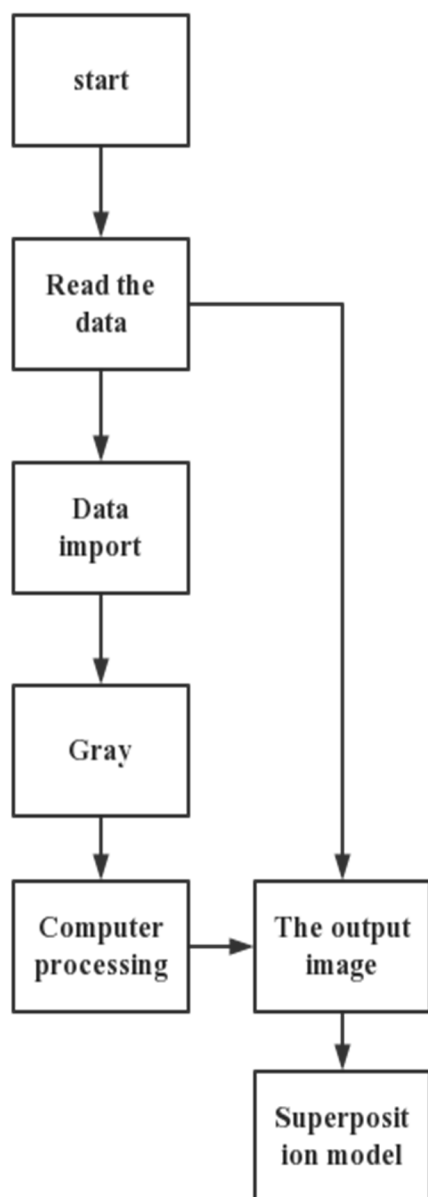


Figure 3: Schematic diagram of music simulation environment

4. CONCLUSIONS

Although the application of virtual reality technology in experimental psychology has been approved and supported by the educational circles, some problems will inevitably appear in the process of practice of any new technology, and virtual reality technology is no exception. In exploring people's potential psychological problems, virtual reality technology can provide some help and basis for researchers, but when facing the change of external environment, virtual Reality Technology can not establish the corresponding data repository according to the changes in the external environment to conduct a comprehensive analysis and study of psychological problems. Also, because of this, the database resources of experimental psychology set up by virtual reality research are scarce, so it can not meet the need of experimental psychology development. Even so, virtual reality technology combined with computer to explore the psychological depth of the experimental target data is still for the practice and development of experimental psychology has provided a positive impact and valuable experience.

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