摘要

本文主要介绍业内一致看好的虚拟现实技术，揭开其神秘的面纱。

虚拟现实（Virtual Reality，简称VR）是综合计算机图形技术、多媒体技术、网络技术、传感技术、人机交互技术、仿真技术等多种技术而发展起来的综合性技术。有三大显著特征：沉浸感、交互性和想象力。目前国内外发展前景良好，政府与企业都给予其极高的关注度。

虚拟现实涉及的关键技术主要是动态环境建模技术、实时三维图形生成技术、立体显示技术，用户跟踪、感觉反馈、应用系统开发工具、系统集成技术。

这些关键技术在正文部分有较详细的介绍。

虚拟现实前景之所以被业内外人士一致看好，是因为它具有相当广泛的应用领域，包括医学、游戏、军事、教育、心理、工业设计、旅游等等。本文主要介绍了VR技术在教育、游戏和医疗方面的应用。

而虚拟现实产品开发也存在不可避免的瓶颈：无法完全解决的眩晕感、“沉浸体验”和“真实感”难兼得、屏幕刷新率。这也是其至今未蔓延市场的原因。

总而言之，虚拟现实开发前景良好，应用广泛，虽存在瓶颈问题，但仍是大势所趋，未来高端科技领域的佼佼者。

**关键词**：虚拟现实，关键技术，应用领域，瓶颈

Abstract

This paper describes virtual reality technology which is known as great prospects in industry, opened its mysterious veil.

VR (Virtual Reality, called VR) is a comprehensive computer graphics technology, multimedia technology, network technology, sensor technology, human-computer interaction technology, simulation technology and other technologies and develop integrated technologies. There are three salient features: immersion, interaction and imagination. Currently, it develops well all over the world, government and business have given their high degree of concern.

The key technology of virtual reality is mainly involved in the dynamic environment modeling, real-time three-dimensional graphics generation technology, three-dimensional display technology, user tracking, sensory feedback, application development tools, system integration technology. These key technologies in the body part of a more detailed description.

 Virtual reality is unanimously optimistic about prospects for the reason which has a very wide range of applications, including medical, gaming, military, education, psychology, industrial design, tourism and so on. This paper introduces the VR technology in education, medical and game aspects.

 The virtual reality product development also has unavoidable bottlenecks: a sense of vertigo can not be completely solved, "immersive experience" and "realism" is difficult to have both, the screen refresh rate. This is also the reason the market has not spread.

All in all, virtual reality has a good development prospect, wide range of applications, although there is a bottleneck problem, but it still is a general trend, the leader in high technology market in the field of the future.

**Keywords：**virtual reality, key technologies, applications, VR bottleneck