本科毕业设计（论文）

基于 Unity3d 的篮球类游戏开发
Design and Implementation of Sports Game for Basketball Based on Unity3D

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内容摘要

随着时代向前推进，互联网的信息技术也发生了日益精进，人们的日常生活中娱乐所占用的时间相比以前也渐渐提高。其中游戏业以惊人的速度进展，各个年龄阶层的人们都对游戏有不同程度的需求。而这当中 VR 游戏又是游戏业中的尖端技术，这类游戏不仅能让玩家体验到仿真的交互，而且还可以做到模拟现实、身临其境的效果，因而受到大量的游戏玩家的喜爱。

Unity3D 是目前市场上最热门的一款游戏开发引擎之一，它易于上手，开发便捷，正是学生初步接触游戏开发时的不二之选。本项目是一款基于 VR 设备的篮球体育类游戏，在使用 Unity3D 游戏引擎进行开发的基础上，也结合了 SteamVR 接口的运用。区别于电脑上、手机上的篮球游戏，使用 VR 设备进行游玩的篮球游戏除了在体验游戏过程中达到减压的目的，同时身体的随着游戏活动也能给人们带来一定锻炼效果。现在社会上的人们，无论是学生还是成年人，在空闲时选择的游戏通常都是在电脑前，手机前进行操作，久而久之也会由于缺乏运动而带来一些不好的影响，而 VR 体育类游戏能很好地把游戏和锻炼结合在一起。

本文内容主要描述了该游戏的开发经验，即该游戏的设计与实现以及游戏功能测试等总体的 VR 游戏开发流程。为后续想要开发同类游戏的开发者提供一些借鉴与参考。

关键词：Unity3D SteamVR 虚拟现实 计算机仿真

Abstract

As the times move forward, the information technology of the Internet has also become increasingly sophisticated, and the time taken for entertainment in people's daily lives has gradually increased compared to before. The game industry is developing at an alarming rate, and people of all ages have varying degrees of demand for games. Among them, VR games are also cutting-edge technologies in the game industry. These games not only allow players to experience simulated interaction, but also can simulate the reality and immersive effects, so they are loved by a large number of gamers. .

Unity3D is one of the most popular game development engines on the market. It is easy to get started and convenient to develop. It is exactly the first choice for students when they are initially exposed to game development. This project is a basketball sports game based on VR equipment. Based on the development using the Unity 3D game engine, it also combines the use of the SteamVR interface. Different from basketball games on computers and mobile phones, in addition to the purpose of decompression in the game of using VR devices to play basketball games, the physical activity of the game can also bring certain exercise effects to people. People in the society, whether students or adults, usually choose games in front of computers and mobile phones when they are free. Over time, they will also bring some bad effects due to lack of exercise. VR sports Games can be a good combination of games and exercise.

The content of this article mainly describes the development experience of the game, that is, the design and implementation of the game and the overall VR game development process such as game function testing. Provide some reference and reference for subsequent developers who want to develop similar games.

Keywords：Unity3D   SteamVR   Virtual Reality   Computer Simulation