
基于 Unity3D 游戏开发平台设计

摘要

本次设计基于 Unity3D 游戏开发平台,使用 3DS Max 建模软件完成对篮球、篮球运动员和篮球内部场馆等一系列设施的三维模型创建。在完成运动员模型创建的同时,为其人物模型绑定骨骼,以便其能够完成指定的人物动作。将在 3DSMAX 中创建好的游戏素材,导入到 Unity3D 中作为游戏中的模块与场景后,在 Unity 中完成程序的交互和动画的调试。本系统使用 C#编写程序运行脚本,最终实现玩家模拟真实运动员投篮的三维篮球游戏。

本次设计应用到了系统引擎中的物理系统、粒子碰撞检测系统和 UI 系统等。为了更清晰直观的展现游戏的功能,在 Unity3D 中使用了 UGUI 插件来制作游戏中的 UI 菜单界面,通过碰撞检测来判定游戏中玩家是否进球得分,从而实现游戏的计分功能。本设计建立在虚拟现实技术的研究成果之上,通过 Unity3D 游戏平台来实现篮球运动员的单人投篮练习,为玩家创造更好的游戏体验,使玩家在游戏中找到投篮的乐趣。

关键词: Unity3D;3DS Max 建模;虚拟现实;C#;投篮运动

Abstract

This design is based on Unity3D game development platform, using 3DS Max modeling software to complete the creation of a series of 3D models of basketball and basketball internal venues and other facilities. While creating the player model, bind the skeleton to the character model so that it can complete the specified character action. After importing the game materials created in 3DSMAX into Unity3D as the modules and scenes in the game, the program interaction and animation debugging were completed in Unity, This system USES C# to write the program to run the script, and finally realizes the player simulation of the real player shooting three- dimensional basketball game.

This design is applied to the physical system, particle collision detection system and UI system in the system engine. In order to show the functions of the game more clearly and intuitively, UGUI plug in is used inUnity3D to make the UI menu interface in the game. Collision detection is used to determine whether the player in the game scores goals, so as to realize the scoring function of the game. This design is based on the research results of virtual reality technology. ThroughUnity3D game platform, basketball players can realize single shot practice, so as to create a better game experience for players and make them find the fun of shooting in the game.

Keywords: Unity3D; 3DS Max Modeling; Virtual Reality; C#; Shooting Motion

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