Research and Design of Shooting Games Based on Unity

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Abstract: *This paper is based on design and implementation of the Unity3D shooting game. From the point of view of design, it is analyzed for the shooting game design ideas,the key of the game experience design, game design, as well as the details of the design details and interactive details .It is focus on the design and implementation process of unity3d development of mobile phone game and developed a mobile game.the game has a good entertainment and interactivity.*

Keywords: *Unity3D, mobile game, game design, interactive design*

1. Introduction

With the establishment of the seventies the first game company Atari and game industry for decades the development, the game become a huge number of advocates independent new art style in the world. Today, with the rapid development of technology and in the increasingly tense and stressful work life, more and more people choose the game to relax themselves in leisure time .Compared with the traditional 2D games, the 3D game with sense of the screen and the rhythm come to the fore in recent games. shooting games is more competitive and playability compared to the same types of 3D card and the defense travel . Foreign 3D Games began in the early 90's, while the domestic 3D based Unity Games began in 2003. At present, there are a lot of research in the 3D game, but there is a big gap on the technology compared with foreign because of the late start of the domestic 3D technology. With mobile phones, tablet PCs and other mobile devices to develop micro PC direction, the user's requirements for mobile applications are increasingly high, and constantly pursue high quality, high quality and high fluency. the inevitable trend of the development of mobile games is to the direction of the development of 3D game in the next period of time.

2. Game Development Platform

There are three mainstream game engines for the development of mobile games: cocos2d, Unity3D, and UDK. 3D Unity is developed by Technologies Unity professional game engine for the development of three-dimensional space, people things are given to the real life of various properties of the real life of the game platform, the biggest feature is the cross platform is relatively strong, suitable for Window, Android, Mac, OS X IOS and other major mainstream platform.2D Cocos is mainly used to achieve interactive applications, which can play the game framework, programs, interface interaction, and it is easy to integrate other resources, sharing resources, convenient and flexible. UDK is a virtual engine development kit, mainly for the game screen rendering, enhance the sense of the scene, it provides almost all of the illusory plug-ins, shade effect is more enhanced mobile phone such a mobile platform.Unity 3D platform is used in this paper, the unity 3D in the rapid development is very strong, it is used to C#, JavaScript, boo and other mainstream scripting language, compatible 3D picture beautification need art resource file format, the embedded animation, particle, seeking road subsystem so that it can be a variety of graphics rendering. And it's not just a tool, it has a strong backing, Unity has set up a web resource store (Store Asset), it can use it to download almost everything we need, for example: model, mapping, script, plug-ins, game scene sound, interactive interface, etc..

3. Game Design and Implementation

3.1. Game Description

This game is not gorgeous game skills, there is no multi operation of high operability, the game is the actual game players in the simulation of the battlefield after the war, and to add the impact of the game scene, the game style is modeled on the current popular shooting game CrossFire, with gray tone, however, the bullet will have a bright color, so players have different color experience. The obstacle to the scene with some stones, pillars and cut off the wall to enrich the scene, so that players have a good game experience.

3.2. Game Play

Players will be the game of the APK file installed on the phone, mobile phone use neutral induction control to the left and right rotation - the game is in accordance with the standard method of shooting. When players enter the game will appear to choose the game features a new game, training mode, to help three options, click on the new game to start the game, when the progress bar, enter the game state. When the player wants to start again, click on the screen to achieve a circular icon. Just entered the game, players know nothing about the game, click on the help, the game will prompt the user how to operate, game features, etc.. The game of the game, as shown in Fig 1, the game play flow fig 2.
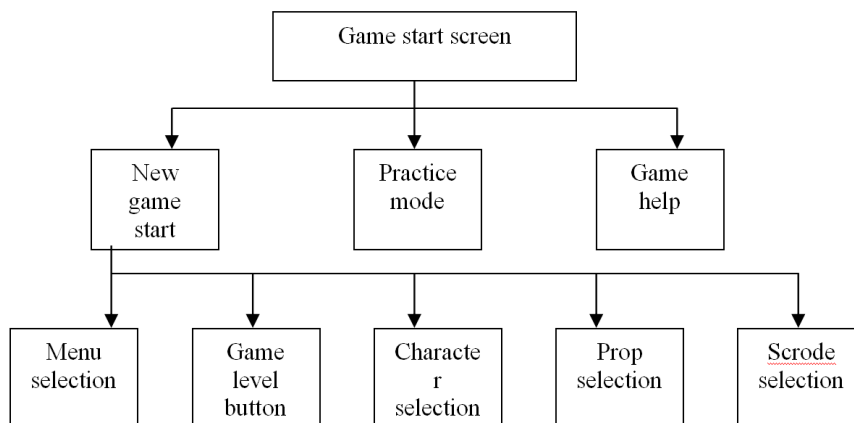

Figure 1: Game operation screen

Figure 2: Game play process

3.3. Game Design and Implementation

3.3.1. The Design and Implementation of Level

When the game is carried out,it designs the gold level information, when gold reaches a certain number, it will enter the next level,.involving the main code is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<CheckPoints>
<CheckPoint Name="关卡 1" ID="01">
<Spawn x="201.5" y="9" z="60.8" />
<Golds>
<Gold id="1" x="166.9" y="5" z="10.8" />
<Gold id="2" x="175.6" y="3" z="207" />
</Golds>
</CheckPoint>
<Spawn x="201.5" y="9" z="60.8"/>
<Golds>
<Gold id="1" x="168" y="5" z="10.8" />
<Gold id="2" x="175.6" y="4" z="207" />
<Gold id="3" x="294.2" y="5.2" z="264.8" />
</Golds>
</CheckPoint>
......
</CheckPoints>
```

3.3.2. Realization of Gravity Induction

The realization of the gravity sensor mainly includes the object map; the Y X coordinate of the object is displayed in the screen; the maximum Y X range of the object's screen is displayed; the gravity of the Y Z x is displayed as a whole, and the object and the position of the object are modified according to the gravity.

4. Summary

This game is a mobile phone mobile terminal game based on Unit 3D as the platform and development tools and the application of C# language for the background development language. Mobile games have become a fashion, a very promising industry. It will have great prospects for development and market in China .This game is running smooth, but it is lacka lot of special effects and voice in the physical impact. It will deal with this aspect of careful processing and improvement in the future work.

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