What is a Video Game?

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Abstract

The video game is based on computer technology has been progress so fast. A video game is an electronic game that involve human interaction with a user interface to generate visual feedback on a video device such a TV screen or computer monitor. To know the video game, we must know what is video. The word video in video game traditionally referred to a raster display device, but in the 2000s, it implies any type of display device that can produce images. The very import part of video game is game engine. Therefore, to know video game, we should know game engine. The game engine is a software framework designed for the creation and development of video game. The video engine may support rendering, input, physics, sound, networking, AI and much more. Each of these serves a dramatically different purpose depending on the game using it. [Wikipedia 2016].[Dr.Kenwrigh 2016].

Keywords: gama engine, video game

1 Introduction

We all know that video game must have very beautiful frame. To make this beautiful frame we need game engine to make this. Therefore, the game engine is the most most import part in the video game. To know what is game engine and how the game engine work is very necessary. To built a video game, we not just need game engine. Also, a video game need a large numver of people to built a video game. [Dr.Kenwrigh 2016]).

- game engine can generalizable system providing a set of useful, flexible components. And implemented as a framework or a library.
- A game engine is the thing that games are built on.
- In the game engine, there has several different kinds of game engine.
  First, Real-time strategy(RTS) engine. This game has large number of low-detail game units, multiple levels of AI(unit, squad, team). Client/server networking with some lag tolerance and heihtmap-based terrain.
  Second, Vehicle simulation engines. This game engine has low number of high-detail models, with level-of=detail management, limited AI components, minimal network latency and realistic environment and physical forces.
  Last, The universal game engine. But actually it is doesn't exist.
- In the video game, there several work to built a video game. The team roles is include art director(2D artist, 3D modeler, animator, FX artist), sound maker, game publisher, game designer, game tester, lead programmer(graphic programmer network programmer, sound programmer, physics programmer, AI programmer, script programmer.

[Dr.Kenwrigh 2016]).

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2 Related Work

To know video game, now every use frame game is called video game. Therefore, whatever we the video game in the computer or phone. The game all called video game. In the video game team roles, the game designer can be more specific like the story line designer, game difficulty designer and so on. Game engine is the most importanr part of a video game. In the game team roles, the most import work is game designer.[Dr.Kenwrigh 2016].

3 Overview

The core gaming components. Firsts, graphics renders, such as directX, openGL, HTML canvas/WebGl, platform specific rendering. Such as, render-viewport(3D), render-input data, render-pipeline. Second, shaders is the microprogram which runs directly on GPU. Such as, GLSL, HLSL, vertex shader, pixel shader, pixel shader, geometry shader, ressellation shader. Third, lighting is based on ambient, point, spot, directional, self-illuminated. Fourth, animation-skeletal. animation-mesh/morph, animation-motion capture. Last, user interface, physics, sound and network.

4 Methods/Techniques

In the video game, there are eight part to make a complete video game. There are graphics renders, physics, sound, physics, sound, network, input and scripting.[Dr.Kenwrigh 2016]).

- Graphics renders is include DirectX, OpenGL, HTML canvas/WebGL, platForm specific rendering, render - viewport, render - input data, render - pipeline. Shaders include GLSL, HLSL, vertex shader, pixel shader, geometry shader, ressellation shader. lighting include ambient, point, spot, directional, self-illuminated. FX include particle system, motion trail, decal. Animation include mesh/morph, skeletal, motion capture. And LODS and MipMaps, user interface.
- Physics include scene, static and dynamic, vollision detection and collision response, cloth simulation, spatial partitioning
- sound include sound(music, ambient, 3d), sound scene and sound FX.
- network include build-in, standalone server.
- input include input devices, button, axis, gesture.
- scripting include game logic and AI.

5 Conclusion

In this report, first, the definition of video game. The most import part of a video game is game engine. And the report write the definition of game engine. To complete the video game, sometimes we need a team. The game team roles such art direct, sound maker and game designer and son on. In the video game, people need have a structure of make a video game. Also video game have core gaming components such as graphics renders, physics and so on. A video game include so many work, so many teleology.[Dr.Kenwrigh 2016]).

References

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