

DIRECTX – TECHNOLOGY THAT CHANGED COMPUTER GRAPHICS

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During evolution of technology, new different video cards and other components have been created. Because of this diversity there is a big problem for the games development. If the hardware was the same, it would help game creators to maximize their product performance. Games would be able to use the entire resource

of the components of the computer, which would make no problem to do it. However, such implementation is not so popular. Therefore, Microsoft has decided to build a library of packages to optimize hardware work. This has saved many developers from writing products right away under several graphics cards, sound cards, motherboards and even certain versions of Windows operating systems.

To solve the problem, Chris Hecker wrote the “Wing” library. The library allowed to interact directly with graphic devices. It was necessary to improve this library. 3 months before the release of Windows 95 Microsoft decided to make a breakthrough productivity in multimedia. Realizing that the games themselves would be a force for the system, it was decided to develop the SDK for creating games under Windows – *Direct3D*. The package of libraries DirectX 1.0 was used by all owners of computers running the Windows 95a operating system. The release was held on September 30, 1995. It was a simplified set, which was mainly responsible for the output of two-dimensional graphics, all sorts of sounds and processing data from the manipulators.

Direct3D fully supported OpenGL and expanded its functionality to additional libraries, such as Direct Sound and Direct Input. This was necessary because the output of audio and data from the joystick / keyboard had to be released from the protected mode. Later other Direct-libraries were created, which in general were called *DirectX*.

The seventh version of DirectX, which released in September 1999, should be highlighted, because for it Microsoft developed a new texture format – .dds. The new version of the API was able to allocate vertex buffers in the video memory. This was the first significant advantage of DirectX over OpenGL. After the release of DirectX 9.0, Microsoft strengthened its leadership position. NVIDIA and ATI focused on refinement of drivers for better performance of rendering DirectX-based applications [2]. In the eleventh version of the DirectX, support for tessellation was introduced. The essence of tessellation is that when the low-detail object is approaching, the number of triangles in image exponentially increases to obtain a more realistic and qualitative picture [2]. The advantage of the method is that the average number of processed triangles is always almost the same, so that there are no interruptions in performance.

The library package works directly with video card resources. Of course, the newer version of DirectX - the smaller the number of old graphics cards can work with it. However, graphic adapter manufacturers are trying to work with Microsoft, so it's very difficult to find a graphics card that does not support the latest DirectX 12. [1]

So Microsoft's main idea was to allow Windows to monopolize resources, unlike DOS. Mandatory condition is the full control of the equipment. This is necessary to optimize the interaction of programs. In order to allow developers to freely use the resources developed DirectX.

REFERENCES

1. История развития DirectX [Электронный ресурс] – Режим доступа: <http://directiks.ru/istoriya-razvitiya-directx>.

2. Коленченко О. Двадцать лет спустя. Эволюция API Microsoft DirectX [Электронный ресурс] / Олег Коленченко // ferra.ru. – 2015. – Режим доступа: <https://www.ferra.ru/ru/system/review/directX-evolution/>.

3. Тарасов И. Что такое OpenGL? [Электронный ресурс] / Игорь Тарасов. – Режим доступа: <http://www.opengl.org.ru/>.

4. Широков С. История противостояния OpenGL и Direct3D [Электронный ресурс] / Сергей Широков. – 2011. – Режим доступа: <https://habrahabr.ru/post/123194/>.