

The Demo Scene

Vincent Scheib
UNC Chapel Hill
Demoscene Outreach Group
scheib@cs.unc.edu

Organizer/Moderator

Theo Engell-Nielsen
hybris/NEMESIS
theo@rhk.dk

Eric Haines
Autodesk, Inc.
erich@acm.org

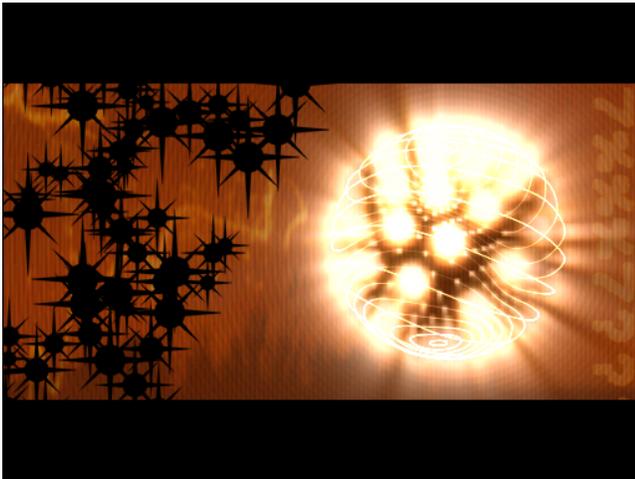
Saku Lehtinen
Remedy Entertainment
saku@remedy.fi

Phil Taylor
Microsoft DirectX
ptaylor@microsoft.com

Abstract

For 20 years, an underground movement has produced short real-time animations running on home computers. This group, the "demoscene," primarily consists of students who pursue their technical and artistic interests beyond the classroom, to create inspiring works of real-time art. These productions encompass a broad range of computer graphics techniques such as procedural geometry, real-time ray-tracing, and real-time shading.

Game developers have been utilizing this talent pool yet it has little visibility in the SIGGRAPH community. This panel explores the demoscene, technical tricks used in demos, and how scene educational and creative aspects can contribute to the SIGGRAPH community.



Screen shot from *Moral Hard Candy*, by Blasphemy

Demo Scene?

The Demo Scene consists of hobbyists who create Demos. A Demo is an executable program that produces, in real time, engaging computer graphics synchronized with music. Demos run on home computers – they are a celebration of the abilities of consumer equipment and the developers' skill. Programming, art, and music composition skills are stressed. Demos are similar in some ways (but are not equivalent) to music videos or short films.

Over 100 'parties' take place per year at which Demo competitions are held. In Europe, several annual parties run for 4 days and host as many as 6,000 guests. Besides the challenge of real time graphics algorithms, Demos are also often restricted in file sizes such as 4KB or 64KB. This requires the use of

procedural textures, geometry, and animation. Graphics programming alone, however, is not sufficient. Demos also contain songs using elaborately synthesized instruments, 2D & 3D artwork, and key framed & motion captured animation.

Theo Engell-Nielsen – Active Scener

Theo has a Master of Science in Computer Science & Information Psychology, and is a Ph.D. student at the IT University of Copenhagen, Denmark. He is the founder of the demo group called "hybris/NEMESIS" (<http://www.hybrismnemesi.com>).

Theo has been a demo coder since the mid 80's on the Commodore 64 (assembly), Amiga 500 (assembly), PC platform (MS Windows, C++), has made scene related music on the Amiga 500 and is now a member of the WILD!Demo demo group hybris/NEMESIS.

He acts as organizer, originator of ideas, technical director, art director, programmer, modeler, animator, sound fx, ... the works. He is an experienced system programmer (2 years), multimedia programmer (4 years), games programmer (1 year), 3D modeler, and 3D animator. Finally, he plays in the Commodore 64 revival band PRESS PLAY ON TAPE (<http://www.PRESSPLAYONTAPE.com>).

Eric Haines – Real-time Graphics

Eric Haines has been involved in SIGGRAPH since 1984, and has been involved as a researcher, a contributor to the art and film shows, and a presenter at a number of courses. He is a coauthor of "An Introduction to Ray Tracing," and has helped disseminate information on this topic to the research and hobbyist community for many years through the electronic magazine "The Ray Tracing News" and the "Ray Tracing Roundtable" at SIGGRAPH.

More recently he coauthored "Real-Time Rendering", released this summer in its second edition, and runs a popular informational site about interactive graphics techniques. He is also an editor of the "Journal of Graphics Tools" and the maintainer of the "Graphics Gems" code repository and the ACM TOG site. He received a Masters from the Program of Computer Graphics at Cornell. He currently works for Autodesk, Inc..

Saku Lehtinen – Game Industry

Saku works as a graphic and game designer at Remedy Entertainment. Remedy's most known work is a game called Max Payne. He has also been involved with the development of technology used at Remedy, the Max-FX, and especially the level editor MaxED. Saku teaches multiple courses in the Architecture department at the Helsinki University of Technology including topics on CAD, DTP, visualization, web, and design. He was part

of the group Aggression in the early 1990's, which was active in the Atari ST scene.

Phil Taylor – DirectX

Philip Taylor is the project manager for Microsoft's DirectX SDK, Managed DirectX, the WindowsXP 3D screensavers, and a few more bits and bobs. Previously at Microsoft he was senior engineer in the DirectX evangelism group for DirectX 3.0 to DirectX 8.0, and helped many game ISVs with DirectX. He has worked with DirectX since the first public beta of the GameSDK (DirectX 1.0), and, once upon a time, actually shipped DirectX 2.0 games. In his spare time, he can be found lurking on many 3-D graphics programming mailing lists and Usenet newsgroups. His interest in the scene is natural considering his long interest in cool 3D.

Vincent Scheib – Organizer/Moderator

Vincent Scheib is pursuing a PhD at UNC Chapel Hill researching real-time interactive techniques, with academic publications in SIGGRAPH and Eurographics. Vincent has worked previously in the game and engineering industries.

He founded the Demoscene Outreach Group in 2000 specifically to bring the demo scene to the SIGGRAPH conference. Since then, he has made presentations at the Game Developer's conference, the Assembly Demo Party in Helsinki, on TechTV's show the Screen Savers, and in an article on Gamasutra.



Screen shot from VIP2, by PoPsY TeAm

More Information

Please find more information on the Demoscene Outreach Group's web page: <http://www.scene.org/dog>

Additionally, several PC demos can be found on this year's supplementary CD-ROM.