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COURSE NOTES 26

The OpenGL Graphics Interface

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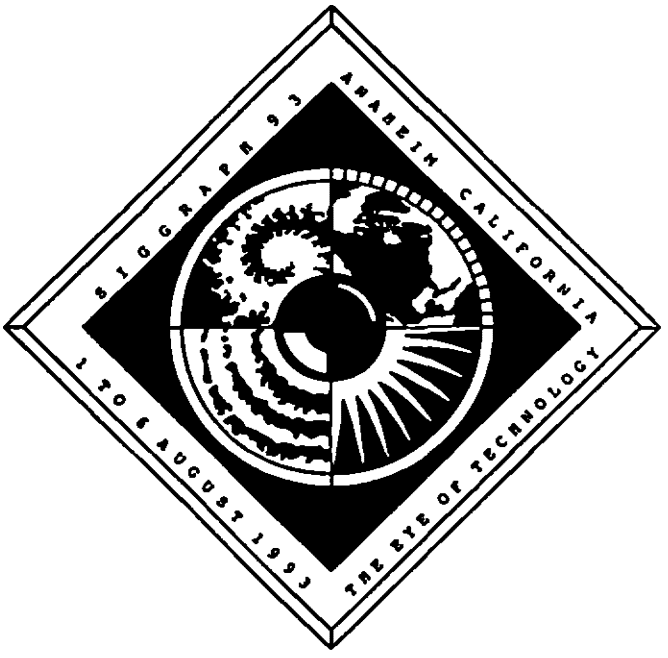

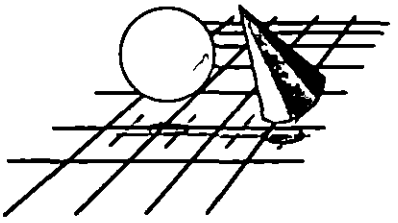

The OpenGL Graphics Interface

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Course Notes

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The OpenGL Graphics Interface

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Course Abstract

OpenGL is a procedural interface that supports interactive 3D graphics OpenGL provides developers access to both simple and advanced rendering techniques Basic capabilities in OpenGL include support for viewing lighting and shading Advanced features include antialiasing texture mapping, and control over accumulation buffers stencil buffers and auxiliary buffers OpenGL is designed to be window system neutral in order that implementations might be possible for Microsoft Windows X and other windowing environments This course covers general use of OpenGL explains how OpenGL is merged into both the X and NT/Windows operating environments explores the philosophy that should be used by application implementors and describes the multivendor organization that supports the OpenGL effort

Speaker Biographies

Randi J Rost

Randi Rost is chief architect for graphics software at Kubota Pacific Computer Inc He is responsible for leading KPC's efforts to design and implement a rich and flexible software environment for KPC s line of high-performance graphics and imaging systems In addition Randi is responsible for participating in emerging graphics standards efforts and developing technology relationships with other organizations He was one of the chief architects for PEX and served as the PEX document editor for the first four years of the effort He participated in the design of OpenGL as well as the design of the GPC committee s Picture Level Benchmark He received NCGA s 1993 Achievement Award for the Advancement of Graphics Standards Randi has previously participated in SIGGRAPH tutorials on PEX and evaluating graphics workstations and was the course organizer for the SIGGRAPH 92 tutorial on OpenGL

Kurt Akeley

Kurt Akeley is vice president and chief engineer in the Visual Systems Group at Silicon Graphics Inc and is one of the company s founders Kurt is responsible for the architecture of the company s next generation high end graphics technology He is also SGI s representative on the OpenGL Architecture Review Board Kurt s publications include *High Performance Polygon Rendering* SIGGRAPH 88 Conference Proceedings *The Accumulation Buffer Hardware Support for High Quality Rendering* SIGGRAPH 90 Conference Proceedings and *The Silicon Graphics 4D/240GTX Superworkstation* July 89 IEEE CG&A He received a B E E from the University of Delaware in 1980 and an M S in Electrical Engineering from Stanford in 1982

On Lee

On Lee is a software design engineer in the Windows NT group of Microsoft Corporation His main responsibility is to lead the OpenGL NT project and he is Microsoft s representative to the OpenGL Architecture Review Board Prior to joining Microsoft On worked for Kubota Pacific Computer Silicon Graphics Inc and Evans & Sutherland At Kubota Pacific On was the project lead for the PEX implementation effort He received both a B S and an M S in Computer Science from Utah State University

Mark Segal

Mark Segal is a member of the technical staff in the Visual Systems Group of Silicon Graphics He is the primary author of the OpenGL specification Mark received an A B in Applied Mathematics from Harvard College in 1982 and a PhD in Computer Science from UC Berkeley in 1989 He continues to pursue research interests in geometric modeling and computational geometry and has published a number of papers in these areas

Mason Woo

Mason Woo oversees graphics technology licensing (including OpenGL) at Silicon Graphics He is co author of the *OpenGL Programming Guide* published by Addison Wesley Prior to taking over his current duties Mason was an instructor and course developer in Silicon Graphics customer support group He has taught students about graphics programming since 1985 beginning with IRIS GL and more recently with Motif and OpenGL He co originated the IRIS Programming Tutorial project and has been team leader for 5 SGI Tutorium booths at SIGGRAPH He has two degrees from Brown University A B 83 and Sc M 86